SAMSUNG

SYSTEM AIRCONDITIONER

INDOOR UNIT

AM007/009/012FN1DCH/AA
AM009/012/018/020FNNDCH/AA
AM009/018/024/030/036/048FN4DCH/AA
AM007/009/012FNLDCH/AA
AM018/024FNLDCH/AA
AM030/036/048FNLDCH/AA
AM018/024FNMDCH/AA
AM030/036FNMDCH/AA
AM048FNMDCH/AA
AM007/009/012/018/020/024FNTDCH/AA
AM036/048FNHDCH/AA
AM076/096FNHDCH/AA
AM018/024FNCDCH/AA

SERVICE Manual

SYSTEM AIRCONDITIONER

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3. Disassembly and Reassembly
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Refer to the service manual in the GSPN(see the rear cover) for the more information.

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1. Precautions

1-1 Precautions for the Service

- **Use the correct parts when changing the electric parts.**
  – Please check the labels and notices for the model name, proper voltage, and proper current for the electric parts.
- **Fully repair the connection for the types of harness when repairing the product after breakdown.**
  – A faulty connection can cause irregular noise and problems.
- **When disassembling or assembling, make sure that the product is laid down on a work cloth.**
  – Doing so will prevent scratching to the exterior of the rear side of the product.
- **Completely remove dust or foreign substances on the housing, connection, and inspection parts when performing repairs.**
  – This can prevent fire hazards for tracking, short, etc.
- **Please tighten the service valve of the outdoor unit and the valve cap of the charging valve as securely as possible by using a monkey spanner.**
- **Check whether the parts are properly and securely assembled after performing repairs.**
  – These parts should be in the same condition as before the repair.

1-2 Precautions for the Static Electricity and PL

- **Please carefully handle the PCB power terminal during repair and measurement when it is turned on since it is vulnerable to static electricity.**
  – Please wear insulation gloves before performing PCB repair and measurement.
- **Check if the place of installation is at least 2m away from electronic appliances such as TV, video players, and stereos.**
  – This can cause irregular noise or degrade the picture quality.
- **Please make sure the customer does not directly repair the product.**
  – Arbitrary dismantling may result in electric shock or fire.

1-3 Precautions for the Safety

- **Do not pull or touch the power plug or the subsidiary power switch with wet hands.**
  – This may result in electric shock or fire.
- **If the power line or the power plug is damaged, then it must be changed since this is a hazard.**
- **Do not bend the wire too much or position it so that it can be damaged by a heavy object on top.**
  – This may result in electric shock or fire.
- **The use of multiple electric outlets should be prohibited.**
  – This may result in electric shock or fire.
- **Ground the connection if it is necessary.**
  – The connection must be grounded if there is any risk of electrical short due to water or moisture.
- **Unplug the power or turn off the subsidiary power switch when changing or repairing electrical parts.**
  – Doing so will prevent electric shock.
- **Explain to workers that the battery for the remote control needs to be separated for storage purposes when the product will not be used for a long time.**
  – This can cause a problem for the remote control since battery fluid may trickle out.

1-4 Precautions for Handling Refrigerant for Air Conditioner

Environmental Cautions: Air pollution due to gas release

- **Safety Cautions**
  If liquid gas is released, then body parts that come into contact with it may experience frostbite/blister/numbness.
  If a large amount of gas is released, then suffocation may occur due to lack of oxygen. If the released gas is heated, then noxious gas may be produced by combustion.
- **Container Handling Cautions**
  Do not subject container to physical shock or overheating. (Flowage is possible while moving within the regulated pressure.)

1-5 Precautions for Welding the Air Conditioner Pipe

- **Dangerous or flammable objects around the pipe must be removed before the welding.**
- **If the refrigerant is kept inside the product or the pipe, then remove the refrigerant prior to welding.**
  If the welding is carried out while the refrigerant is kept inside, the welding cannot be properly performed. This will also produce noxious gas that is a health hazard. This leakage will also explode with the refrigerant and oil due to an increase in the refrigerant pressure, posing a danger to workers.
- **Please remove the oxide produced inside the pipe during the welding with nitrogen gas.**
  Using another gas may cause harm to the product or others.

1-6 Precautions for Additional Supplement of Air Conditioner Refrigerant

- **Precisely calculate the refrigerant by using a scale and S-net, and proceed with the test operation.**
  Excessive supplement can cause harm to the product since it can cause an inflow of the liquid refrigerant into the compressor.
- **Do not heat the refrigerant container for a forced injection.**
  This may cause harm to the product or others since the refrigerant container may burst.
- **Do not operate the product after removing the product safety pressure switch and sensor.**
  If the product is blocked inside, then this may cause harm to the product or others due to the excess pressure increase of the refrigerant gas.

1-7 Other Precautions

- **There should be no leakage of the pipes after installation. When withdrawing the refrigerant, the compressor should be stopped before removing the connecting pipe.**
  If the compressor is operating while the refrigerant pipe is not correctly connected and the service valve is opened, then air and other substances can enter the pipe. The interior of the refrigerant cycle may then build up excessive high pressure resulting in explosion and damage.

2. Product Specifications

2-1 Product Specifacations

2-1-1 Indoor Unit

■ Slim 1WAY cassette

Model				JSF-1		
				AM007FN1DCH/AA	AM009FN1DCH/AA	AM012FN1DCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	7,500	9,500	12,000
		Heating 2)	kW			
			Btu/h	8,500	10,500	13,500
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	40	45	50
		Heating 2)		40	45	50
	Current Input (Nominal)	Cooling 1)	A	0.23	0.25	0.28
		Heating 2)		0.23	0.25	0.28
Fan	Type		-	Crossflow fan	Crossflow Fan	Crossflow Fan
	Motor	Model	-	Y4S476B041L	Y4S476B041L	Y4S476B041L
		Type	-	BLDC	BLDC	BLDC
		Output x n	W	20 x 1	20 x 1	20 x 1
	Air Flow Rate	H/M/L	CMM	7.00 / 6.00 / 5.00	7.00 / 6.00 / 5.00	8.00 / 7.00 / 6.00
	External Pressure	Min / Std / Max	Pa			
			WG			
Sound	Sound Pressure	High / Mid / Low	dBA	29.0 / - / 27.0	30.0 / - / 27.0	35.0 / - / 30.0
	Sound Power	High / Mid / Low		-		
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	6.35	6.35
			ø, inch	1/4"	1/4"	1/4"
	Gas Pipe (Flare)		ø,mm	12.7	12.7	12.7
			ø, inch	1/2"	1/2"	1/2"
	Drain Pipe (Quick lock)		ø,mm	VP 20 (ODø26,IDø20)	VP20 (OD 26,ID 20)	VP20 (OD 26,ID 20)
Dimensions	Net Weight		kg	16	16	16
			lbs	35.3	35.3	35.3
	Shipping Weight		kg	18	18	18
			lbs	39.7	39.7	39.7
	Net Dimensions (W×H×D)		mm	970 x 135 x 410	970 x 135 x 410	970 x 135 x 410
			inch	38.2 x 5.3 x 16.1	38.2 x 5.3 x 16.1	38.2 x 5.3 x 16.1
	Shipping Dimensions (W×H×D)		mm	1,164 x 212 x 478	1,164 x 212 x 478	1,164 x 212 x 478
			inch	45.8 x 8.3 x 18.8	45.8 x 8.3 x 18.8	45.8 x 8.3 x 18.8
Panel Size	Panel model		-	"PC1NUSMAN PC1NUPMAN"	"PC1NUSMAN PC1NUPMAN"	"PC1NUSMAN PC1NUPMAN"
	Panel Net Weight		kg	3.1	3.1	3.1
			lbs	6.8	6.8	6.8
	Shipping Weight		kg	4.5	4.5	4.5
			lbs	9.9	9.9	9.9
	Net Dimensions (W×H×D)		mm	1,180 x 25 x 460	1,180 x 25 x 460	1,180 x 25 x 460
			inches	46.5 x 1 x 18.1	46.5 x 1 x 18.1	46.5 x 1 x 18.1
	Shipping Dimensions (W×H×D)		mm	1,259 x 144 x 539	1,259 x 144 x 539	1,259 x 144 x 539
			inch	49.6 x 5.7 x 21.2	49.6 x 5.7 x 21.2	49.6 x 5.7 x 21.2
Functions	Auto restart		-	O	O	O
	Auto swing		-	O	O	O
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	O	O	O

Model				JSF-1		
				AM007FN1DCH/AA	AM009FN1DCH/AA	AM012FN1DCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			X	X	X
	Pattern sheet for installation			O	O	O
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	-	-	-
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-			
		Receiver wire	-			
	EEV kits		-			

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ Mini 4WAY cassette

Model				Small			
				AM009FNNDCH/AA	AM012FNNDCH/AA	AM018FNNDCH/AA	AM020FNNDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW				
			Btu/h	9,500	12,000	18,000	20,000
		Heating 2)	kW				
			Btu/h	10,500	13,500	20,000	23,000
		Condensate (with high fan speed)	Liter/h				
Power	Power Input (Nominal)	Cooling 1)	W	24	28	36	38
		Heating 2)		24	28	36	38
	Current Input (Nominal)	Cooling 1)	A	0.17	0.19	0.27	0.3
		Heating 2)		0.17	0.19	0.27	0.3
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan	Turbo Fan
	Motor	Model	-	FMC6531SSJ	FMC6531SSJ	FMC6531SSJ	FMC6531SSJ
		Type	-	BLDC	BLDC	BLDC	BLDC
		Output x n	W	65 x 1	65 x 1	65 x 1	65 x 1
	Air Flow Rate	H/M/L	CMM	10.00 / 8.50 / 7.50	10.50 / 9.50 / 8.00	13.00 / 11.00 / 9.50	13.50 / 12.00 / 10.20
	External Pressure	Min / Std / Max	Pa	-	-	-	-
			WG	-	-	-	-
Sound	Sound Pressure	High / Mid / Low	dBA	34.0 / 30.0 / 26.0	36.0 / 34.0 / 31.0	40.0 / 37.0 / 34.0	41.0 / 37.0 / 34.0
	Sound Power	High / Mid / Low		-	-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	6.35	6.35	6.35
			ø, inch	1/4"	1/4"	1/4"	1/4"
	Gas Pipe (Flare)		ø,mm	12.7	12.7	12.7	12.7
			ø, inch	1/2"	1/2"	1/2"	1/2"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	12	12	12	12
			lbs	26.5	26.5	26.5	26.5
	Shipping Weight		kg	14	14	14	14
			lbs	30.9	30.9	30.9	30.9
	Net Dimensions (W×H×D)		mm	575 x 250 x 575	575 x 250 x 575	575 x 250 x 575	575 x 250 x 575
			inch	22.6 x 9.8 x 22.6	22.6 x 9.8 x 22.6	22.6 x 9.8 x 22.6	22.6 x 9.8 x 22.6
	Shipping Dimensions (W×H×D)		mm	623 x 298 x 653	623 x 298 x 653	623 x 298 x 653	623 x 298 x 653
			inch	24.5 x 11.7 x 25.7	24.5 x 11.7 x 25.7	24.5 x 11.7 x 25.7	24.5 x 11.7 x 25.7
Panel Size	Panel model		-	PC4SUSMAN	PC4SUSMAN	PC4SUSMAN	PC4SUSMAN
	Panel Net Weight		kg	2.7	2.7	2.7	2.7
			lbs	6	6	6	6
	Shipping Weight		kg	4.2	4.2	4.2	4.2
			lbs	9.3	9.3	9.3	9.3
	Net Dimensions (W×H×D)		mm	670 x 45 x 670	670 x 45 x 670	670 x 45 x 670	670 x 45 x 670
			inches	26.4 x 1.8 x 26.4	26.4 x 1.8 x 26.4	26.4 x 1.8 x 26.4	26.4 x 1.8 x 26.4
	Shipping Dimensions (W×H×D)		mm	714 x 106 x 724	714 x 106 x 724	714 x 106 x 724	714 x 106 x 724
			inch	28.1 x 4.2 x 28.5	28.1 x 4.2 x 28.5	28.1 x 4.2 x 28.5	28.1 x 4.2 x 28.5
Functions	Auto restart		-	O	O	O	O
	Auto swing		-	O	O	O	O
	Group/individual control		-	O	O	O	O
	External contact control		-	O	O	O	O
	Trouble shooting by LED		-	O	O	O	O

Model				Small			
				AM009FNNDCH/AA	AM012FNNDCH/AA	AM018FNNDCH/AA	AM020FNNDCH/AA
Standard accessories	Installation manual			O	O	O	O
	Operation manual			X	X	X	X
	Pattern sheet for installation			O	O	O	O
	Flexible drain hose			O	O	O	O
	Flilter/Safety grille			Filter / Safety grille	Filter / Safety grille	Filter / Safety grille	Filter / Safety grille
	Drain pump	Drain pump	- / ⊠⊠	-	-	-	-
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	AR-DH00	AR-DH00	AR-DH00	AR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-				
		Receiver wire	-				
	EEV kits		-				

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ 4WAY casette (Small)

Model				4WAY casette - Small		
				AM009FN4DCH/AA	AM018FN4DCH/AA	AM024FN4DCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	9,000	18,000	24,000
		Heating 2)	kW			
			Btu/h	10,000	20,000	27,000
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	28	32	40
		Heating 2)		28	32	40
	Current Input (Nominal)	Cooling 1)	A	0.2	0.25	0.3
		Heating 2)		0.2	0.25	0.3
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan
	Motor	Model	-	FMC6531SSH	FMC6531SSH	FMC6531SSH
		Type	-	BLDC	BLDC	BLDC
		Output x n	W	65 x 1	65 x 1	65 x 1
	Air Flow Rate	H/M/L	CMM	14.50/13.00/11.00	15.50 / 14.00 / 12.00	17.50 / 16.00 / 14.00
	External Pressure	Min / Std / Max	Pa	-	-	-
			WG	-	-	-
Sound	Sound Pressure	High / Mid / Low	dBA	-	-	-
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	6.35	6.35
			ø, inch	1/4"	1/4"	1/4"
	Gas Pipe (Flare)		ø,mm	12.7	12.7	12.7
			ø, inch	1/2"	1/2"	1/2"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD32,ID25)	VP25 (OD32,ID25)	VP25 (OD32,ID25)
Dimensions	Net Weight		kg	25	25	25
			lbs	55.1	55.1	55.1
	Shipping Weight		kg	31	31	31
			lbs	68.3	68.3	68.3
	Net Dimensions (W×H×D)		mm	840 x 218 x 840	840 x 218 x 840	840 x 218 x 840
			inch	33.1 x 8.6 x 33.1	33.1 x 8.6 x 33.1	33.1 x 8.6 x 33.1
	Shipping Dimensions (W×H×D)		mm	925 x 280 x 925	925 x 280 x 925	925 x 280 x 925
			inch	36.4 x 11 x 36.4	36.4 x 11 x 36.4	36.4 x 11 x 36.4
Panel Size	Panel model		-	PC4NUSKAN	PC4NUSKAN	PC4NUSKAN
	Panel Net Weight		kg	7	7	7
			lbs	15.4	15.4	15.4
	Shipping Weight		kg	10.3	10.3	10.3
			lbs	22.7	22.7	22.7
	Net Dimensions (W×H×D)		mm	950 x 35 x 950	950 x 35 x 950	950 x 35 x 950
			inches	37.4 x 1.4 x 37.4	37.4 x 1.4 x 37.4	37.4 x 1.4 x 37.4
	Shipping Dimensions (W×H×D)		mm	1042 x 103 x 1042	1042 x 103 x 1042	1042 x 103 x 1042
			inch	41 x 4.1 x 41	41 x 4.1 x 41	41 x 4.1 x 41
Functions	Auto restart		-	O	O	O
	Auto swing		-	O	O	O
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	O	O	O

Model				4WAY casette - Small		
				AM009FN4DCH/AA	AM018FN4DCH/AA	AM024FN4DCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			X	X	X
	Pattern sheet for installation			O	O	O
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter / Safety grille	Filter / Safety grille	Filter / Safety grille
	Drain pump	Drain pump	- / ⊠⊠	-	-	-
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	AR-DH00	AR-DH00	AR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-			
		Receiver wire	-			
	EEV kits		-			

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ 4WAY casette (Large)

Model				4WAY casette - Large		
				AM030FN4DCH/AA	AM036FN4DCH/AA	AM048FN4DCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	30,000	36,000	48,000
		Heating 2)	kW			
			Btu/h	34,000	40,000	54,000
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	65	75	95
		Heating 2)		65	75	95
	Current Input (Nominal)	Cooling 1)	A	0.5	0.56	0.75
		Heating 2)		0.5	0.56	0.75
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan
	Motor	Model	-	FMC6531SSH	FMC6531SSH	FMC6531SSH
		Type	-	BLDC	BLDC	BLDC
		Output x n	W	65 x 1	65 x 1	65 x 1
	Air Flow Rate	H/M/L	CMM	22.00 / 19.50 / 17.00	24.00 / 22.00 / 20.00	29.00 / 27.00 / 24.00
	External Pressure	Min / Std / Max	Pa	-	-	-
			WG	-	-	-
Sound	Sound Pressure	High / Mid / Low	dBA	-	-	-
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	9.52	9.52	9.52
			ø, inch	3/8"	3/8"	3/8"
	Gas Pipe (Flare)		ø,mm	15.88	15.88	15.88
			ø, inch	5/8"	5/8"	5/8"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD32,ID25)	VP25 (OD32,ID25)	VP25 (OD32,ID25)
Dimensions	Net Weight		kg	29	29	29
			lbs	63.9	63.9	63.9
	Shipping Weight		kg	35	35	35
			lbs	77.2	77.2	77.2
	Net Dimensions (W×H×D)		mm	840 x 298 x 840	840 x 298 x 840	840 x 298 x 840
			inch	33.1 x 11.7 x 33.1	33.1 x 11.7 x 33.1	33.1 x 11.7 x 33.1
	Shipping Dimensions (W×H×D)		mm	925 x 360 x 925	925 x 360 x 925	925 x 360 x 925
			inch	36.4 x 14.2 x 36.4	36.4 x 14.2 x 36.4	36.4 x 14.2 x 36.4
Panel Size	Panel model		-	PC4NUSKAN	PC4NUSKAN	PC4NUSKAN
	Panel Net Weight		kg	7	7	7
			lbs	15.4	15.4	15.4
	Shipping Weight		kg	10.3	10.3	10.3
			lbs	22.7	22.7	22.7
	Net Dimensions (W×H×D)		mm	950 x 35 x 950	950 x 35 x 950	950 x 35 x 950
			inches	37.4 x 1.4 x 37.4	37.4 x 1.4 x 37.4	37.4 x 1.4 x 37.4
	Shipping Dimensions (W×H×D)		mm	1042 x 103 x 1042	1042 x 103 x 1042	1042 x 103 x 1042
			inch	41 x 4.1 x 41	41 x 4.1 x 41	41 x 4.1 x 41
Functions	Auto restart		-	O	O	O
	Auto swing		-	O	O	O
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	O	O	O

Model				4WAY casette - Large		
				AM030FN4DCH/AA	AM036FN4DCH/AA	AM048FN4DCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			X	X	X
	Pattern sheet for installation			O	O	O
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter / Safety grille	Filter / Safety grille	Filter / Safety grille
	Drain pump	Drain pump	- / □□□	-	-	-
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	AR-DH00	AR-DH00	AR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-			
		Receiver wire	-			
	EEV kits		-			

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ SLIM DUCT(Slim1)

Model				Slim1		
				AM007FNLDCH/AA	AM009FNLDCH/AA	AM012FNLDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	7,500	9,500	12,000
		Heating 2)	kW			
			Btu/h	8,500	10,500	13,500
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	47	60	75
		Heating 2)		47	60	75
	Current Input (Nominal)	Cooling 1)	A	0.32	0.4	0.51
		Heating 2)		0.32	0.4	0.51
Fan	Type		-	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor	Model	-	YSK110-25-6SN	YSK110-25-6SN	YSK110-25-6SN
		Type	-	SSR	SSR	SSR
		Output x n	W	40 x 1	50 x 1	60 x 1
	Air Flow Rate	H/M/L	CMM	8.00 / 7.00 / 6.00	9.00 / 8.00 / 7.00	10.00 / 8.50 / 7.00
	External Pressure	Min / Std / Max	Pa	0.00 / 2.00 / 4.00	0.00 / 2.00 / 4.00	0.00 / 2.00 / 4.00
			WG	0.00 / 19.61 / 39.23	0.00 / 19.61 / 39.23	0.00 / 19.61 / 39.23
Sound	Sound Pressure	High / Mid / Low	dBA	31.0 / - / 26.0	32.0 / - / 27.0	33.0 / - / 30.0
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	6.35	6.35
			ø, inch	1/4"	1/4"	1/4"
	Gas Pipe (Flare)		ø,mm	12.7	12.7	12.7
			ø, inch	1/2"	1/2"	1/2"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	26	26	26
			lbs	57.3	57.3	57.3
	Shipping Weight		kg	31	31	31
			lbs	68.3	68.3	68.3
	Net Dimensions (W×H×D)		mm	900 x 199 x 600	900 x 199 x 600	900 x 199 x 600
			inch	35.4 x 7.8 x 23.6	35.4 x 7.8 x 23.6	35.4 x 7.8 x 23.6
	Shipping Dimensions (W×H×D)		mm	1,133 x 330 x 730	1,133 x 330 x 730	1,133 x 330 x 730
			inch	44.6 x 13 x 28.7	44.6 x 13 x 28.7	44.6 x 13 x 28.7
Panel Size	Panel model		-	-	-	-
	Panel Net Weight		kg	-	-	-
			lbs	-	-	-
	Shipping Weight		kg	-	-	-
			lbs	-	-	-
	Net Dimensions (W×H×D)		mm	-	-	-
			inches	-	-	-
	Shipping Dimensions (W×H×D)		mm	-	-	-
			inch	-	-	-
Functions	Auto restart		-	O	O	O
	Auto swing		-	X	X	X
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	X	X	X

Model				Slim1		
				AM007FNLDCH/AA	AM009FNLDCH/AA	AM012FNLDCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			O	O	O
	Pattern sheet for installation			X	X	X
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	MDP-E075SEE3D	MDP-E075SEE3D	MDP-E075SEE3D
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-	MRK-A10	MRK-A10	MRK-A10
		Receiver wire	-	MRW-10A	MRW-10A	MRW-10A
	EEV kits		-			

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*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ SLIM DUCT(Slim2)

Model				Slim2	
				AM018FNLDCH/AA	AM024FNLDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW		
			Btu/h	18,000	24,000
		Heating 2)	kW		
			Btu/h	20,000	27,000
		Condensate (with high fan speed)	Liter/h		
Power	Power Input (Nominal)	Cooling 1)	W	140	145
		Heating 2)		140	145
	Current Input (Nominal)	Cooling 1)	A	0.94	0.98
		Heating 2)		0.94	0.98
Fan	Type		-	Sirocco Fan	Sirocco Fan
	Motor	Model	-	YSK140-60-4B1	YSK140-60-4B1
		Type	-	SSR	SSR
		Output x n	W	100 x 1	110 x 1
	Air Flow Rate	H/M/L	CMM	15.50 / 14.00 / 12.50	16.50 / 15.00 / 13.50
	External Pressure	Min / Std / Max	Pa	0.00 / 2.00 / 4.00	0.00 / 2.00 / 4.00
			WG	0.00 / 19.61 / 39.23	0.00 / 19.61 / 39.23
Sound	Sound Pressure	High / Mid / Low	dBA	38.0 / - / 31.0	39.0 / - / 35.0
	Sound Power	High / Mid / Low		-	-
Refrigerant	Type		-	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	9.52
			ø, inch	1/4"	3/8"
	Gas Pipe (Flare)		ø,mm	12.7	15.88
			ø, inch	1/2"	5/8"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	31	31
			lbs	68.3	68.3
	Shipping Weight		kg	39	39
			lbs	86	86
	Net Dimensions (W×H×D)		mm	1,100 x 199 x 600	1,100 x 199 x 600
			inch	43.3 x 7.8 x 23.6	43.3 x 7.8 x 23.6
	Shipping Dimensions (W×H×D)		mm	1,330 x 330 x 730	1,330 x 330 x 730
			inch	52.4 x 13 x 28.7	52.4 x 13 x 28.7
Panel Size	Panel model		-	-	-
	Panel Net Weight		kg	-	-
			lbs	-	-
	Shipping Weight		kg	-	-
			lbs	-	-
	Net Dimensions (W×H×D)		mm	-	-
			inches	-	-
	Shipping Dimensions (W×H×D)		mm	-	-
			inch	-	-
Functions	Auto restart		-	O	O
	Auto swing		-	X	X
	Group/individual control		-	O	O
	External contact control		-	O	O
	Trouble shooting by LED		-	X	X

Model				Slim2	
				AM018FNLDCH/AA	AM024FNLDCH/AA
Standard accessories	Installation manual			O	O
	Operation manual			O	O
	Pattern sheet for installation			X	X
	Flexible drain hose			O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	MDP-E075SEE3D	MDP-E075SEE3D
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-	MRK-A10	MRK-A10
		Receiver wire	-	MRW-10A	MRW-10A
	EEV kits		-		

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ SLIM DUCT(Slim3)

Model				Slim3		
				AM030FNLDCH/AA	AM036FNLDCH/AA	AM048FNLDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	30,000	36,000	48,000
		Heating 2)	kW			
			Btu/h	34,000	40,000	54,000
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	95	120	180
		Heating 2)		95	120	180
	Current Input (Nominal)	Cooling 1)	A	0.8	1.05	1.4
		Heating 2)		0.8	1.05	1.4
Fan	Type		-	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor	Model	-	DL-12840SSBC	DL-12840SSBC	DL-12840SSBC
		Type	-	BLDC	BLDC	BLDC
		Output x n	W	80 x 1	100 x 1	160 x 1
	Air Flow Rate	H/M/L	CMM	25.00 / 23.00 / 20.00	27.00 / 25.00 / 23.00	35.00 / 33.00 / 30.00
	External Pressure	Min / Std / Max	Pa	0.00 / 3.00 / 6.00	0.00 / 3.00 / 6.00	0.00 / 3.00 / 6.00
			WG	0.00 / 29.42 / 58.84	0.00 / 29.42 / 58.84	0.00 / 29.42 / 58.84
Sound	Sound Pressure	High / Mid / Low	dBA	37.0 / - / 33.0	39.0 / - / 36.0	41.0 / - / 38.0
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	9.52	9.52	9.52
			ø, inch	3/8"	3/8"	3/8"
	Gas Pipe (Flare)		ø,mm	15.88	15.88	15.88
			ø, inch	5/8"	5/8"	5/8"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	43	46	46
			lbs	94.8	101.4	101.4
	Shipping Weight		kg	51.5	54.5	54.5
			lbs	113.5	120.2	120.2
	Net Dimensions (W×H×D)		mm	1,300 x 295 x 690	1,300 x 295 x 690	1,300 x 295 x 690
			inch	51.2 x 11.6 x 27.2	51.2 x 11.6 x 27.2	51.2 x 11.6 x 27.2
	Shipping Dimensions (W×H×D)		mm	1,600 x 444 x 831	1,600 x 444 x 831	1,600 x 444 x 831
			inch	63 x 17.5 x 32.7	63 x 17.5 x 32.7	63 x 17.5 x 32.7
Panel Size	Panel model		-	-	-	-
	Panel Net Weight		kg	-	-	-
			lbs	-	-	-
	Shipping Weight		kg	-	-	-
			lbs	-	-	-
	Net Dimensions (W×H×D)		mm	-	-	-
			inches	-	-	-
	Shipping Dimensions (W×H×D)		mm	-	-	-
			inch	-	-	-
Functions	Auto restart		-	O	O	O
	Auto swing		-	X	X	X
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	X	X	X

Model				Slim3		
				AM030FNLDCH/AA	AM036FNLDCH/AA	AM048FNLDCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			O	O	O
	Pattern sheet for installation			X	X	X
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	MDP-E075SEE3D	MDP-E075SEE3D	MDP-E075SEE3D
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-	MRK-A10	MRK-A10	MRK-A10
		Receiver wire	-	MRW-10A	MRW-10A	MRW-10A
	EEV kits		-			

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ MSP DUCT(MSP-S)

Model				MSP DUCT - MSP-S	
				AM018FNMDCH/AA	AM024FNMDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW		
			Btu/h	18,000	24,000
		Heating 2)	kW		
			Btu/h	20,000	27,000
		Condensate (with high fan speed)	Liter/h		
Power	Power Input (Nominal)	Cooling 1)	W	165	220
		Heating 2)		165	220
	Current Input (Nominal)	Cooling 1)	A	1.4	1.5
		Heating 2)		1.4	1.5
Fan	Type		-	Sirocco Fan	Sirocco Fan
	Motor	Model	-	YSK140-200-4E1	YSK140-200-4E1
		Type	-	SSR	SSR
		Output x n	W	124 x 1	124 x 1
	Air Flow Rate	H/M/L	CMM	14.50 / 13.00 / 11.50	18.50 / 17.00 / 15.50
	External Pressure	Min / Std / Max	Pa	0.00 / 4.00 / 8.00	0.00 / 4.00 / 8.00
			WG	0.00 / 39.23 / 78.45	0.00 / 39.23 / 78.45
Sound	Sound Pressure	High / Mid / Low	dBA	37.0 / 35.0 / 33.0	39.0 / 37.0 / 35.0
	Sound Power	High / Mid / Low		-	-
Refrigerant	Type		-	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	9.52
			ø, inch	1/4"	3/8"
	Gas Pipe (Flare)		ø,mm	12.7	15.88
			ø, inch	1/2"	5/8"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	31	31
			lbs	68.3	68.3
	Shipping Weight		kg	36	36
			lbs	79.4	79.4
	Net Dimensions (W×H×D)		mm	900 x 260 x 480	900 x 260 x 480
			inch	35.4 x 10.2 x 18.9	35.4 x 10.2 x 18.9
	Shipping Dimensions (W×H×D)		mm	1,170 x 340 x 595	1,170 x 340 x 595
			inch	46.1 x 13.4 x 23.4	46.1 x 13.4 x 23.4
Panel Size	Panel model		-	-	-
	Panel Net Weight		kg	-	-
			lbs	-	-
	Shipping Weight		kg	-	-
			lbs	-	-
	Net Dimensions (W×H×D)		mm	-	-
			inches	-	-
	Shipping Dimensions (W×H×D)		mm	-	-
			inch	-	-
Functions	Auto restart		-	O	O
	Auto swing		-	X	X
	Group/individual control		-	O	O
	External contact control		-	O	O
	Trouble shooting by LED		-	X	X

Model				MSP DUCT - MSP-S	
				AM018FNMDCH/AA	AM024FNMDCH/AA
Standard accessories	Installation manual			O	O
	Operation manual			O	O
	Pattern sheet for installation			X	X
	Flexible drain hose			O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	MDP-M075SGU3D	MDP-M075SGU3D
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-	MRK-A10	MRK-A10
		Receiver wire	-	MRW-10A	MRW-10A
	EEV kits		-		

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ MSP DUCT(MSP-1, MSP-2)

Model				MSP-1		MSP-2
				AM030FNMDCH/AA	AM036FNMDCH/AA	AM048FNMDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	30,000	36,000	48,000
		Heating 2)	kW			
			Btu/h	34,000	40,000	54,000
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	260	290	430
		Heating 2)		260	290	430
	Current Input (Nominal)	Cooling 1)	A	1.5	1.6	2.45
		Heating 2)		1.5	1.6	2.45
Fan	Type		-	Sirocco Fan	Sirocco Fan	Sirocco Fan
	Motor	Model	-	YSK140-200-4A	YSK140-200-4A	YDK-370S65023-01
		Type	-	SSR	SSR	SSR
		Output x n	W	180 x 1	180 x 1	218 x 1
	Air Flow Rate	H/M/L	CMM	25.00 / 23.00 / 20.00	27.00 / 25.00 / 23.00	35.00 / 33.00 / 30.00
	External Pressure	Min / Std / Max	Pa	6.00 / 8.00 / 10.00	6.00 / 8.00 / 10.00	6.00 / 8.00 / 10.00
			WG	58.84 / 78.45 / 98.07	58.84 / 78.45 / 98.07	58.84 / 78.45 / 98.07
Sound	Sound Pressure	High / Mid / Low	dBA	39.0 / - / 33.0	41.0 / - / 36.0	43.0 / - / 40.0
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	9.52	9.52	9.52
			ø, inch	3/8"	3/8"	3/8"
	Gas Pipe (Flare)		ø,mm	15.88	15.88	15.88
			ø, inch	5/8"	5/8"	5/8"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	46	46	52
			lbs	101.4	101.4	114.6
	Shipping Weight		kg	54.5	54.5	60
			lbs	120.2	120.2	132.3
	Net Dimensions (W×H×D)		mm	1,150 x 320 x 480	1,150 x 320 x 480	1,200 x 360 x 650
			inch	45.3 x 12.6 x 18.9	45.3 x 12.6 x 18.9	47.3 x 14.2 x 25.6
	Shipping Dimensions (W×H×D)		mm	1,396 x 424 x 584	1,396 x 424 x 584	1,447 x 425 x 769
			inch	55 x 16.7 x 23	55 x 16.7 x 23	57 x 16.7 x 30.3
Panel Size	Panel model		-	-	-	-
	Panel Net Weight		kg	-	-	-
			lbs			
	Shipping Weight		kg	-	-	-
			lbs			
	Net Dimensions (W×H×D)		mm	-	-	-
			inches			
	Shipping Dimensions (W×H×D)		mm	-	-	-
			inch	-	-	-
Functions	Auto restart		-	O	O	O
	Auto swing		-	X	X	X
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	X	X	X

Model				MSP-1		MSP-2
				AM030FNMDCH/AA	AM036FNMDCH/AA	AM048FNMDCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			O	O	O
	Pattern sheet for installation			X	X	X
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	MDP-M075SGU1D	MDP-M075SGU1D	MDP-M075SGU1D
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-	MRK-A10	MRK-A10	MRK-A10
		Receiver wire	-	MRW-10A	MRW-10A	MRW-10A
	EEV kits		-			

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ NEO FORTE(Small)

Model				NEO FORTE - Small		
				AM007FNTDCH/AA	AM009FNTDCH/AA	AM012FNTDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	7,500	9,500	12,000
		Heating 2)	kW			
			Btu/h	8,500	10,500	13,500
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	37	37	45
		Heating 2)		37	37	45
	Current Input (Nominal)	Cooling 1)	A	0.25	0.25	0.3
		Heating 2)		0.25	0.25	0.3
Fan	Type		-	Crossflow Fan	Crossflow Fan	Crossflow Fan
	Motor	Model	-	YDK-016S41408-01 RPG21Y	YDK-016S41408-01 RPG21Y	YDK-016S41408-01 RPG21Y
		Type	-	AC	AC	AC
		Output x n	W	23 x 1	23 x 1	23 x 1
	Air Flow Rate	H/M/L	CMM	7.80 / 6.80 / 5.80	8.20 / 7.20 / 6.20	9.30 / 8.30 / 7.30
	External Pressure	Min / Std / Max	Pa	-	-	-
			WG	-	-	-
Sound	Sound Pressure	High / Mid / Low	dBA	32.0 / - / 21.0	32.0 / - / 23.0	36.0 / - / 23.0
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV NOT INCLUDED	EEV NOT INCLUDED	EEV NOT INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	6.35	6.35
			ø, inch	1/4"	1/4"	1/4"
	Gas Pipe (Flare)		ø,mm	12.7	12.7	12.7
			ø, inch	1/2"	1/2"	1/2"
	Drain Pipe (Quick lock)		ø,mm	ID 18 HOSE	ID 18 HOSE	ID 18 HOSE
Dimensions	Net Weight		kg	8	8	8
			lbs	17.6	17.6	17.6
	Shipping Weight		kg	9	9	9
			lbs	19.8	19.8	19.8
	Net Dimensions (W×H×D)		mm	825 x 285 x 189	825 x 285 x 189	825 x 285 x 189
			inch	32.5 x 11.2 x 7.4	32.5 x 11.2 x 7.4	32.5 x 11.2 x 7.4
	Shipping Dimensions (W×H×D)		mm	900 x 349 x 252	900 x 349 x 252	900 x 349 x 252
			inch	35.4 x 13.7 x 9.9	35.4 x 13.7 x 9.9	35.4 x 13.7 x 9.9
Panel Size	Panel model		-	-	-	-
	Panel Net Weight		kg	-	-	-
			lbs			
	Shipping Weight		kg	-	-	-
			lbs			
	Net Dimensions (W×H×D)		mm	-	-	-
			inches			
	Shipping Dimensions (W×H×D)		mm	-	-	-
			inch	-	-	-
Functions	Auto restart		-	O	O	O
	Auto swing		-	O	O	O
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	O	O	O

Model				NEO FORTE - Small		
				AM007FNTDCH/AA	AM009FNTDCH/AA	AM012FNTDCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			O	O	O
	Pattern sheet for installation			X	X	X
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	-	-	-
		Max. lifting Height / Displacement	mm / liter/h	-	-	-
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-			
		Receiver wire	-			
	EEV kits		-	MXD, MEV series	MXD, MEV series	MXD, MEV series

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ NEO FORTE - Large

Model				Large		
				AM018FNTDCH/AA	**AM020FNTDCH/AA**	AM024FNTDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW			
			Btu/h	18,000	20,000	23,200
		Heating 2)	kW			
			Btu/h	20,000	23,000	23,800
		Condensate (with high fan speed)	Liter/h			
Power	Power Input (Nominal)	Cooling 1)	W	55	57	60
		Heating 2)		55	57	60
	Current Input (Nominal)	Cooling 1)	A	0.36	0.38	0.4
		Heating 2)		0.36	0.38	0.4
Fan	Type		-	Crossflow Fan	Crossflow Fan	Crossflow Fan
	Motor	Model	-	YDK-045S42213-02	YDK-045S42213-02	YDK-045S42213-02
		Type	-	AC	AC	AC
		Output x n	W	40 x 1	40 x 1	40 x 1
	Air Flow Rate	H/M/L	CMM	12.00 / 10.50 / 9.00	14.00 / 12.50 / 11.00	14.00 / 12.50 / 11.00
	External Pressure	Min / Std / Max	Pa	-	-	-
			WG	-	-	-
Sound	Sound Pressure	High / Mid / Low	dBA	40.0 / - / 30.0	41.0 / - / 30.0	-
	Sound Power	High / Mid / Low		-	-	-
Refrigerant	Type		-	R-410A	R-410A	R-410A
	Control Method		-	EEV NOT INCLUDED	EEV NOT INCLUDED	EEV NOT INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	6.35	9.52
			ø, inch	1/4"	1/4"	3/8"
	Gas Pipe (Flare)		ø,mm	12.7	12.7	15.88
			ø, inch	1/2"	1/2"	5/8"
	Drain Pipe (Quick lock)		ø,mm	ID 18 HOSE	ID 18 HOSE	ID 18 HOSE
Dimensions	Net Weight		kg	13	13	13
			lbs	28.7	28.7	28.7
	Shipping Weight		kg	16	16	16
			lbs	35.3	35.3	35.3
	Net Dimensions (W×H×D)		mm	1,099 x 315 x 217	1,099 x 315 x 217	1,099 x 315 x 217
			inch	43.3 x 12.4 x 8.5	43.3 x 12.4 x 8.5	43.3 x 12.4 x 8.5
	Shipping Dimensions (W×H×D)		mm	1,137 x 377 x 299	1,137 x 377 x 299	1,137 x 377 x 299
			inch	44.8 x 14.8 x 11.8	44.8 x 14.8 x 11.8	44.8 x 14.8 x 11.8
Panel Size	Panel model		-	-	-	-
	Panel Net Weight		kg	-	-	-
			lbs			
	Shipping Weight		kg	-	-	-
			lbs			
	Net Dimensions (W×H×D)		mm	-	-	-
			inches			
	Shipping Dimensions (W×H×D)		mm	-	-	-
			inch	-	-	-
Functions	Auto restart		-	O	O	O
	Auto swing		-	O	O	O
	Group/individual control		-	O	O	O
	External contact control		-	O	O	O
	Trouble shooting by LED		-	O	O	O

Model				Large		
				AM018FNTDCH/AA	**AM020FNTDCH/AA**	AM024FNTDCH/AA
Standard accessories	Installation manual			O	O	O
	Operation manual			O	O	O
	Pattern sheet for installation			X	X	X
	Flexible drain hose			O	O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	-	-	-
		Max. lifting Height / Displacement	mm / liter/h	-	-	-
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-			
		Receiver wire	-			
	EEV kits		-	MXD, MEV series	MXD, MEV series	MXD, MEV series

⚠

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ HSP DUCT(BIG DUCT)

Model				BIG DUCT	
				AM076FNHDCH/AA	AM096FNHDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW		
			Btu/h	76,800	96,000
		Heating 2)	kW		
			Btu/h	85,200	108,000
		Condensate (with high fan speed)	Liter/h		
Power	Power Input (Nominal)	Cooling 1)	W	530	790
		Heating 2)		530	790
	Current Input (Nominal)	Cooling 1)	A	3.8	5.9
		Heating 2)		3.8	5.9
Fan	Type		-	Sirocco Fan	Sirocco Fan
	Motor	Model	-	DL-13875SSOB	DL-13875SSOB
		Type	-	BLDC	BLDC
		Output x n	W	400 x 1	400 x 1
	Air Flow Rate	H/M/L	CMM	58.00 / 52.00 / 47.00	72.00 / 65.00 / 58.00
	External Pressure	Min / Std / Max	Pa	5.00 / 15.00 / 25.00	5.00 / 15.00 / 28.00
			WG	49.03 / 147.10 / 245.17	49.03 / 147.10 / 274.59
Sound	Sound Pressure	High / Mid / Low	dBA	47.0 / - / 44.0	48.0 / - / 45.0
	Sound Power	High / Mid / Low		-	-
Refrigerant	Type		-	R-410A	R-410A
	Control Method		-	EEV INCLUDED	EEV INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	9.52	9.52
			ø, inch	3/8"	3/8"
	Gas Pipe (Flare)		ø,mm	19.05	22.22
			ø, inch	3/4"	7/8"
	Drain Pipe (Quick lock)		ø,mm	VP25 (OD 32,ID 25)	VP25 (OD 32,ID 25)
Dimensions	Net Weight		kg	89	89
			lbs	196.2	196.2
	Shipping Weight		kg	99	99
			lbs	218.3	218.3
	Net Dimensions (W×H×D)		mm	1,240 x 470 x 1,040	1,240 x 470 x 1,040
			inch	48.8 x 18.5 x 40.9	48.8 x 18.5 x 40.9
	Shipping Dimensions (W×H×D)		mm	1,507 x 558 x 1,155	1,507 x 558 x 1,155
			inch	59.3 x 22 x 45.5	59.3 x 22 x 45.5
Panel Size	Panel model		-	-	-
	Panel Net Weight		kg	-	-
			lbs	-	-
	Shipping Weight		kg	-	-
			lbs	-	-
	Net Dimensions (W×H×D)		mm	-	-
			inches	-	-
	Shipping Dimensions (W×H×D)		mm	-	-
			inch	-	-
Functions	Auto restart		-	O	O
	Auto swing		-	X	X
	Group/individual control		-	O	O
	External contact control		-	O	O
	Trouble shooting by LED		-	X	X

Model				BIG DUCT	
				AM076FNHDCH/AA	AM096FNHDCH/AA
Standard accessories	Installation manual			O	O
	Operation manual			O	O
	Pattern sheet for installation			O	O
	Flexible drain hose			O	O
	Flilter/Safety grille			X	X
	Drain pump	Drain pump	- / ⊠⊠	MDP-N047SNC1D	MDP-N047SNC1D
		Max. lifting Height / Displacement	mm / liter/h	750 / 24	750 / 24
Optional accessories	Wireless remote controller		-	MR-DH00	MR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-	MRK-A10	MRK-A10
		Receiver wire	-	MRW-10A	MRW-10A
	EEV kits		-		

⚠

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

Indoor Unit(cont.)

■ CEILING

Model				CEILING	
				AM018FNCDCH/AA	AM024FNCDCH/AA
Power Supply			ø, #, V, Hz	1,2,208-230,60	1,2,208-230,60
Mode			-	HP/HR	HP/HR
Performance	Capacity (Nominal)	Cooling 2)	kW		
			Btu/h	18,000	24,000
		Heating 2)	kW		
			Btu/h	20,000	27,000
		Condensate (with high fan speed)	Liter/h		
Power	Power Input (Nominal)	Cooling 1)	W	70	80
		Heating 2)		70	80
	Current Input (Nominal)	Cooling 1)	A	0.42	0.48
		Heating 2)		0.42	0.48
Fan	Type		-	Sirocco Fan	Sirocco Fan
	Motor	Model	-	Y5S613A86	Y5S413B216
		Type	-	AC	AC
		Output x n	W	25 x 1	35 x 1
	Air Flow Rate	H/M/L	CMM	14.00 / 13.00 / 12.00	18.00 / 16.50 / 15.00
	External Pressure	Min / Std / Max	Pa	-	-
			WG	-	-
Sound	Sound Pressure	High / Mid / Low	dBA	38.0 / - / 32.0	41.0 / - / 36.0
	Sound Power	High / Mid / Low		-	-
Refrigerant	Type		-	R-410A	R-410A
	Control Method		-	EEV NOT INCLUDED	EEV NOT INCLUDED
Temperature Control			-	Micom&Thermistors	Micom&Thermistors
Safety devices			-	Fuse	Fuse
Piping Connections	Liquid Pipe (Flare)		ø,mm	6.35	9.52
			ø, inch	1/4"	3/8"
	Gas Pipe (Flare)		ø,mm	12.7	15.88
			ø, inch	1/2"	5/8"
	Drain Pipe (Quick lock)		ø,mm	VP18 (OD 19,ID 16)	VP18 (OD 19,ID 16)
Dimensions	Net Weight		kg	22	22
			lbs	48.5	48.5
	Shipping Weight		kg	26	26
			lbs	57.3	57.3
	Net Dimensions (W×H×D)		mm	1,000 x 650 x 200	1,000 x 650 x 200
			inch	39.4 x 25.6 x 7.9	39.4 x 25.6 x 7.9
	Shipping Dimensions (W×H×D)		mm	1,074 x 726 x 294	1,074 x 726 x 294
			inch	42.3 x 28.6 x 11.6	42.3 x 28.6 x 11.6
Panel Size	Panel model		-	-	-
	Panel Net Weight		kg	-	-
			lbs		
	Shipping Weight		kg	-	-
			lbs		
	Net Dimensions (W×H×D)		mm	-	-
			inches		
	Shipping Dimensions (W×H×D)		mm	-	-
			inch	-	-
Functions	Auto restart		-	O	O
	Auto swing		-	X	X
	Group/individual control		-	O	O
	External contact control		-	O	O
	Trouble shooting by LED		-	X	X

Model				CEILING	
				AM018FNCDCH/AA	AM024FNCDCH/AA
Standard accessories	Installation manual			O	O
	Operation manual			O	O
	Pattern sheet for installation			X	X
	Flexible drain hose			O	O
	Flilter/Safety grille			Filter (washable)	Filter (washable)
	Drain pump	Drain pump	- / ⊠⊠	-	-
		Max. lifting Height / Displacement	mm / liter/h	-	-
Optional accessories	Wireless remote controller		-	AR-DH00	AR-DH00
	wired remote controller		-	MWR-WE10N	MWR-WE10N
	External contact interface module		-	MIM-B14	MIM-B14
	Duct Receiver kits	Receiver	-		
		Receiver wire	-		
	EEV kits		-	MXD, MEV series	MXD, MEV series

*1) Mode
- HP : Heat Pump, HR : Heat Recovery

*2) Nominal cooling capacities are based on;
- Indoor temperature : 27˚C DB, 19˚C WB
- Outdoor temperature : 35˚C DB, 24˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*3) Nominal heating capacities are based on;
- Indoor temperature : 20˚C DB, 15˚C WB
- Outdoor temperature : 7˚C DB, 6˚C WB, Equivalent refrigerant piping : 7.5m, Level differences : 0m

*4) Sound pressure was acquired in a dead room. Thus actual noise level may be different depending on the installation conditions.

*5) Specifications may be subject to change without prior notice for product improvement.

2-2 Accessory and Option Specifications

2-2-1 Accessories

Classification		Product	Model	Image	Application model
Intergrated management system	Controller	DMS 2	MIM-B14		DVM S
		S-NET 3	MST-P3P		DVM S
	Interface module	PIM	MIM-B16N		DVM S ('13.07~)
Centralized control system	Controller	Centralized controller	MCM-A202DN		DVM S
		Operation mode selection switch	MCM-C200		DVM S
		Touch screen controller	MCM-A300N		DVM S
Individual control system Controller	Controller	Wireless remote controller	MR-DH00U		Cassette, Duct (Receiver needed) Wall-mounted, Ceiling (No receiver needed)
		Wired remote controller (Multi function)	MWR-WE10N		Cassette, Wall-mounted, Ceiling, Duct
		Wireless signal receiver	MRK-A10N		Duct (for wireless remote controller)
		Remote sensor	MRW-TA		Cassette, Wall-mounted, Ceiling, Duct
Building management system		Lonworks interface module	MIM-B18N		DVM S
		DMS-Bnet (BACnet)	MIM-B17N		DVM S
Guest room management system		External contact interface module	MIM-B14		DVM S
Converter		S-NET Pro	MIM-C02N		DVM S
S-checker			MIM-C10		DVM S
Motion detector sensor			MCR-SMA		Only Mini 4Way

※ DVM Series : DVM mini, DVM PLUS III, DVM PLUS III HR, DVM PLUS IV, DVM PLUS IV HR

Classification	Feature	Model	Description	Relevant unit	Remark
Y-joint		MXJ-YA4422M	over 135.2kW(461 MBH)	HP/HR	Requisite
		MXJ-YA4119M	98.4kW~135.2kW(336~461 MBH)		
		MXJ-YA3419M	70.3kW~98.4kW(240~336 MBH)		
		MXJ-YA2815M	45.0kW~70.3kW(154~240 MBH)		
		MXJ-YA2812M	40.0kW~45.0kW(136~154 MBH)		
		MXJ-YA2512M	15.0kW~40.0kW(51~136 MBH)		
		MXJ-YA1509M	below 15.0kW(51 MBH)		
Y-joint (High pressure gas for HR)		MXJ-YA1500M	22.4kW (76 MBH) and below	HR	Requisite
		MXJ-YA2500M	22.4kW ~ 70.3 kW(76~240 MBH)		
		MXJ-YA3100M	70.3kW ~ 135.2 kW(240~461 MBH)		
		MXJ-YA3800M	More than 135.2 kW(461 MBH)		
Outdoor T Joint (Outdoor Connection)		MXJ-TA3819M	456MBH and below	HP/HR	Requisite
		MXJ-TA3100M	456MBH and below(High Pressure Gas for HR)	HR	Requisite
Header Joint		MXJ-HA3819M	8 indoor units - More than 70.3kW(240 MBH)	HP/HR	Requisite
		MXJ-HA3115M	8 indoor units - 70.3kW(240 MBH) and below		
		MXJ-HA2512M	4 indoor units - Less than 45.0kW(154 MBH)		
EEV kit		MXD-E24K132A	2 indoor units (7-15.5, 17-31K)	HP Wall-mounted Ceiling	Option
		MXD-E24K200A	2 indoor units (7-15.5K)		
		MXD-E32K200A	2 indoor units (7-31K)		
		MXD-E24K232A	3 indoor units (7-15.5, 17-31K)	HP Wall-mounted Ceiling	Option
		MXD-E24K300A	3 indoor units (7-15.5K)		
		MXD-E32K224A	3 indoor units (7-15.5, 17-31K)		
		MXD-E32K300A	3 indoor units (17-31K)		
		MEV-E24SA	1 indoor unit (Below 12K)	Wall-mounted Ceiling	Option
		MEV-E32SA	1 indoor unit (18K Over)		
Drain Pump		MDP-E075SEE3D	SLIM DUCT	Slim Duct	Option
		MDP-M075SGU3D	MSP DUCT(18/24MBH)	MSP Duct	
		MDP-M075SGU1D	MSP DUCT(30/36MBH)		
		MDP-M075SGU2D	MSP DUCT(48MBH)/HSP(36/48MHB)		
		MDP-N047SNC1D	HSP DUCT(76.8/96MBH)	HSP Duct	
MCU		MCU-S6NEE1N	Below 6 indoor units	HR	Requisite
		MCU-S4NEE1N	Below 4 indoor units		
		MCU-S4NEE2N	Below 4 indoor units - HSP DUCT(more than 76,800Btu/h)		
AHU kit		MXD-K025AN	24~30MBH(7kW~8.75kW)	-	Option
		MXD-K050AN	48~60MBH(14kW~17.5kW)		
		MXD-K075AN	72~90MBH(21kW~26.25kW)		
		MXD-K100AN	96~112MBH(28kW~35kW)		
Front panel		PC1NUSMAN	SLIM 1-WAY(Classic)	SLIM 1WAY	Requisite
		PC1NUPMAN	SLIM 1-WAY(Zet sliding)	SLIM 1WAY	
		PC4SUSMAN	MINI 4-WAY(Classic)	MINI 4WAY	
		PC4NUSKAN	G 4-WAY(Classic)	G 4WAY	

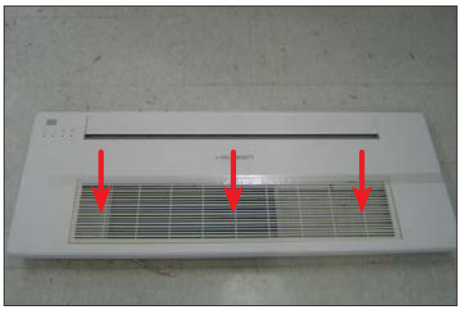
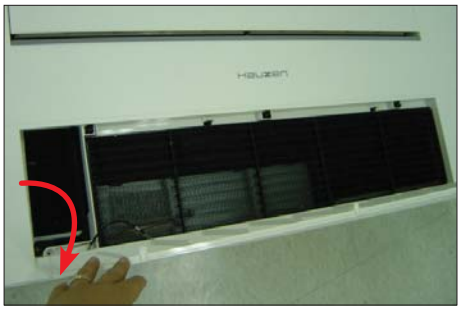
3. Disassembly and Reassembly

■ Necessary Tools

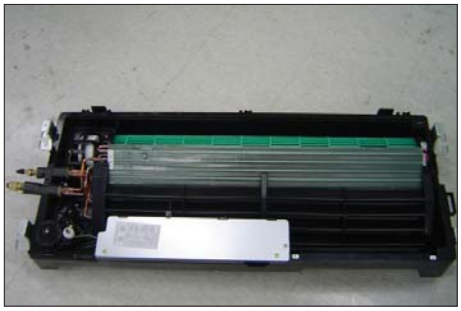
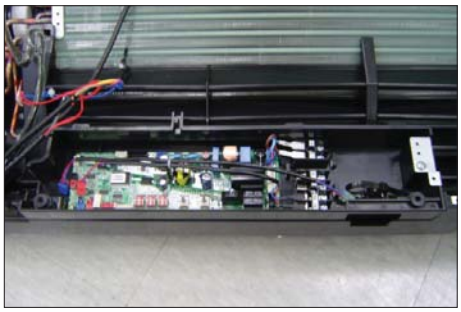
Item	Remark
+Screw Driver	
Monkey Spanner	
–Screw Driver	
Nipper	
Electric Motion Driver	
L-Wrench	

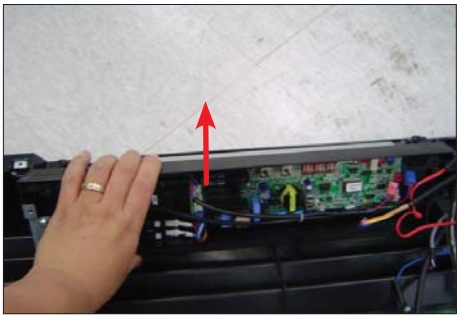
3-1 Indoor Unit

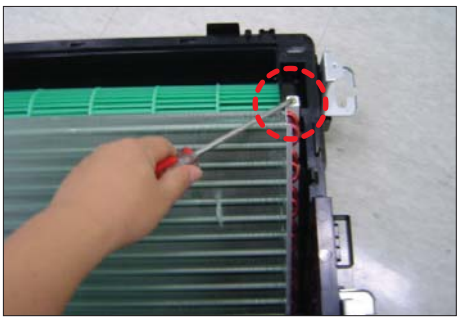
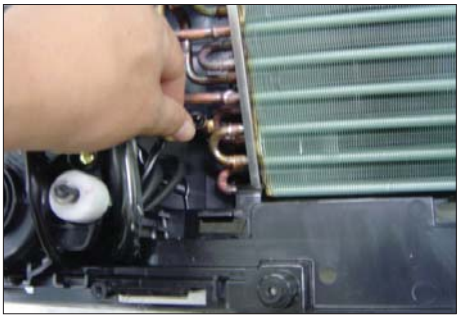
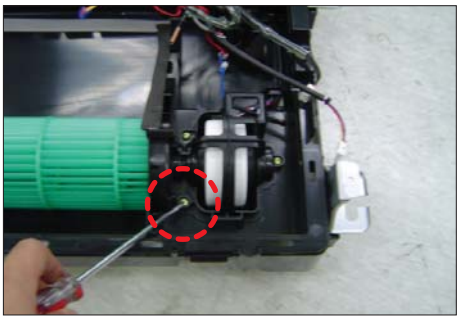
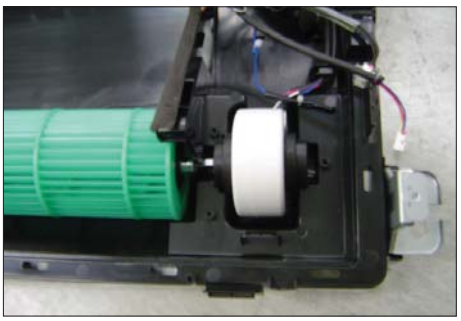
■ Slim 1 way cassette type

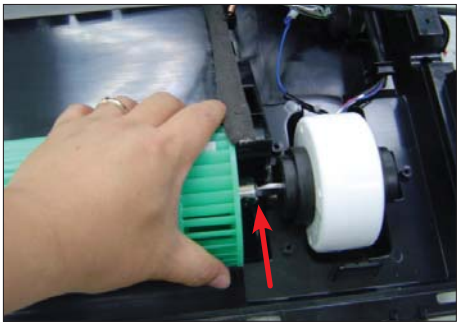
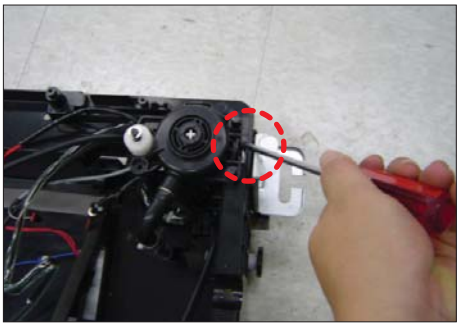
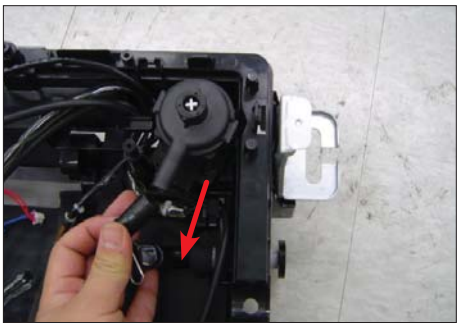
No	Parts	Procedure	Remark
1	Panel & Filter (A type)	1) Press the Push Button on the Grill and open it	
		2) Separate 1 clip from the Panel and tilt the Grill to 45° and separate the Grille from the Panel.	
		3) Separate the Filter from the Panel.	
		4) Separate 3 cover screws from it.	
		5) Unscrew 6 fixed screws and separate them from the Indoor Unit. (Use +Screw Driver)	

No	Parts	Procedure	Remark
		6) Press the left and right Hooks to separate the Panel from the Indoor Unit.	

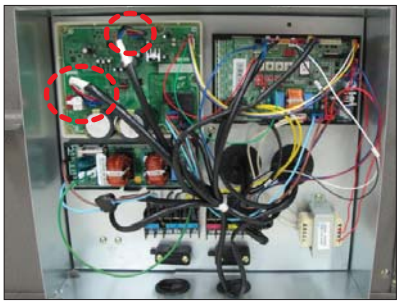
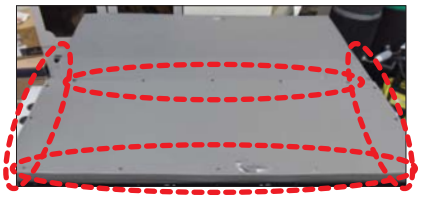
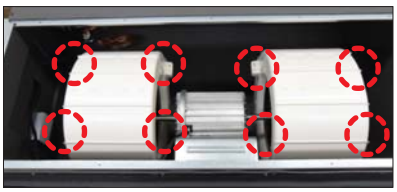
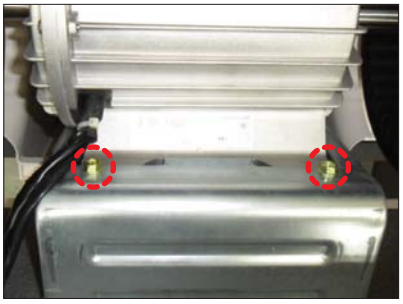
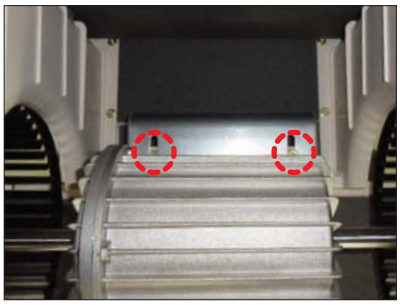
No	Parts	Procedure	Remark
2	Drain Pan	1) Separate 5 fixing screws from the Drain Pan. (Use +Screw Driver) 2) Pull the Drain Pan to separate them from the Indoor Unit. ⚠ **When disassembling the Pan, be careful not to touch the heat exchanger board with a bare hand.**	 
3	Control In	1) Undo 3 fixing screws in the Control In appliance part to separate the Cover. (Use +Screw Driver)	 

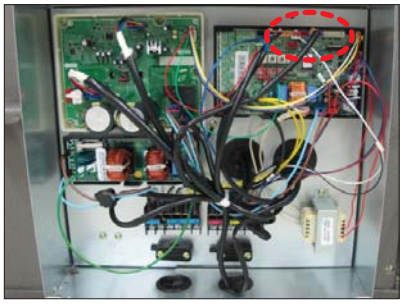
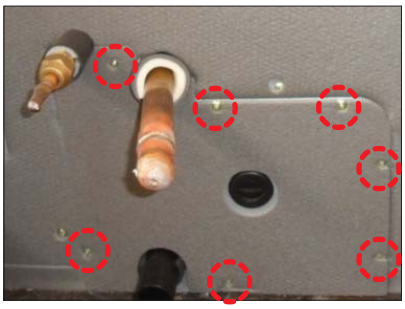
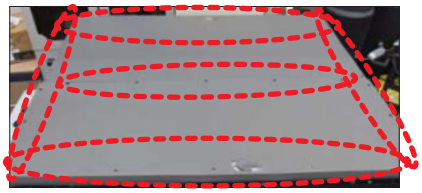
No	Parts	Procedure	Remark
		2) Separate 8 connecters on the PCB of the Indoor Unit.	
		3) Separate the Control In from the Indoor Unit.	
4	Drain Sub	1) Push the hook on the Drain Sub to separate it.	

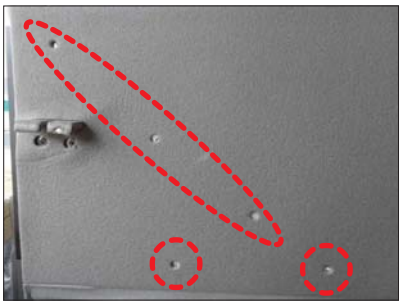
No	Parts	Procedure	Remark
5	Heat Exchanger	1) Undo fixing screw in the Heat Exchanger. (Use +Screw Driver)	
		2) Separate an Indoor Sensor from the Heat Exchanger.	
		3) Separate the Heat Exchanger from the Indoor Unit.	
6	Cross Fan	1) Undo 3 fixing screws on the Cover Fan Motor. (Use +Screw Driver)	
		2) Separate the Cover Fan Motor from the Indoor Unit.	

No	Parts	Procedure	Remark
		3) Separate the Cross Fan from the Indoor Unit.	
7	Drain Pump	1) Separate fixing screw in the Cover Drain Pump. (Use +Screw Driver)	
		2) Separate the Drain Hose from the Drain Pump.	
		3) Separate the Drain Pump from the Indoor Unit.	

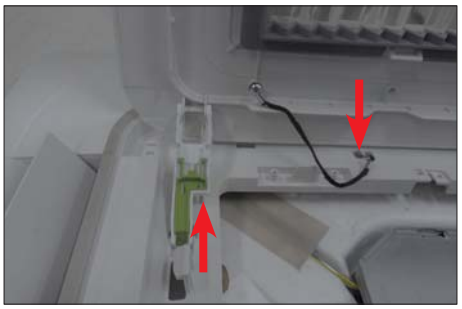
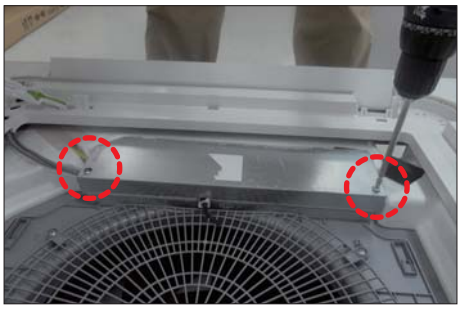
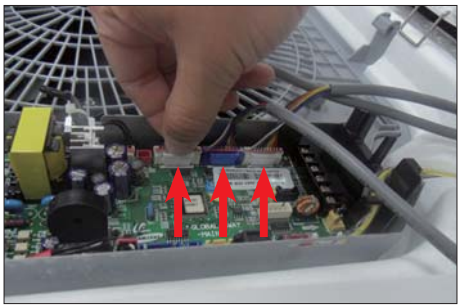
■ BIG DUCT

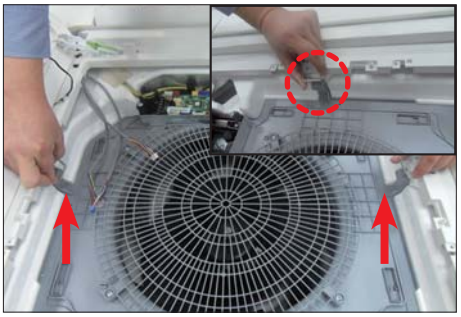
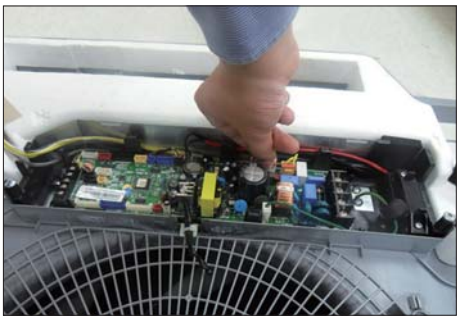
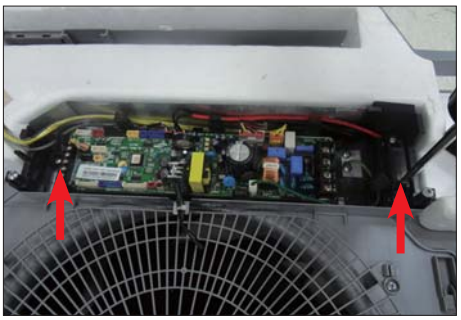
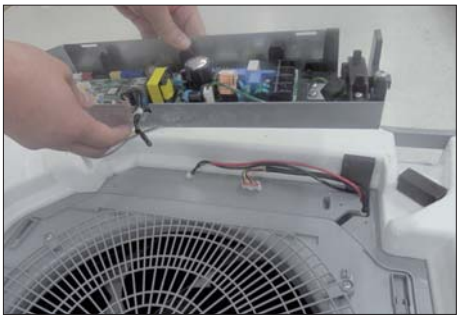
No	Parts	Procedure	Remark
1	MOTOR & BLOWER	1) Detach the motor connectors from the PCB.	
		2) Unscew 16 screws and detach Cabinet-Base Blower. (Use+Screw Driver)	
		3) Unscrew 8 screws and detach Case-Blower. (Use +Screw Driver)	
		4) Unscrew 4 bolts and separate Motor & blower from Bracket-Motor. (Use +Screw Driver)	 

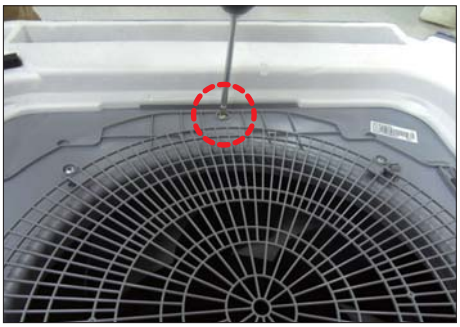
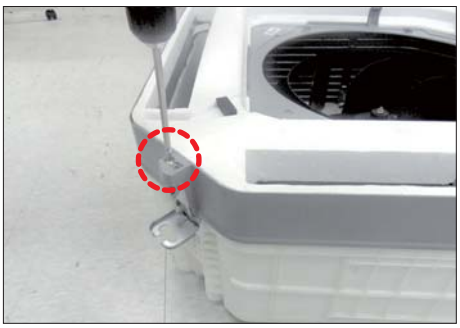
No	Parts	Procedure	Remark
		5) Unscrew bolt and Separate Blower from the motor. (Use +Screw Driver)	
2	EVAPORATOR & DRAIN-PAN	1) Detach EEV and Sensor connectors from the PCB. (Use +Screw Driver)	
		2) Unscrew 8 screws and Detach Cover-Pipe. (Use +Screw Driver)	
		3) Unscrew 31 screws and detach Cabinet-Base Blower andCabinet-Base Drain. (Use +Screw Driver)	

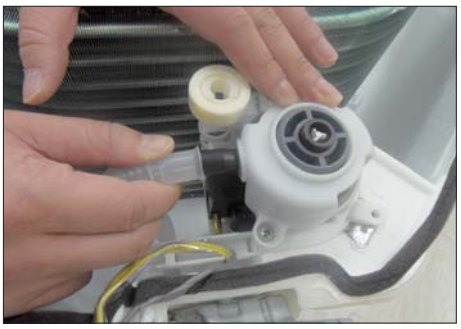
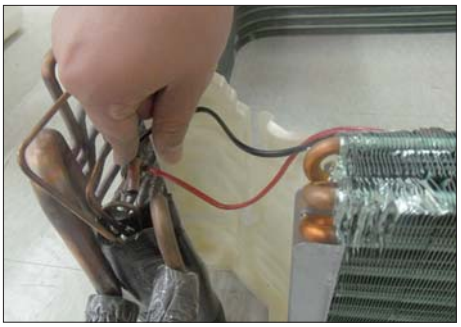
No	Parts	Procedure	Remark
		4) Unscrew 10 screws and detach Drain-Pan from the indoor unit. (Use +Screw Driver)	
		5) Separate Evaporator from the indoor unit.	

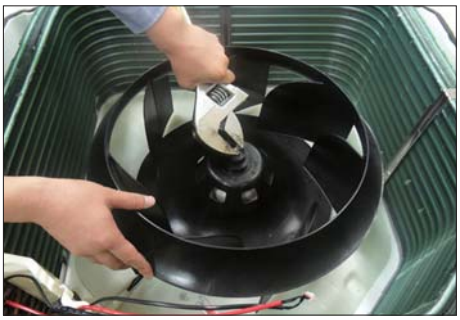
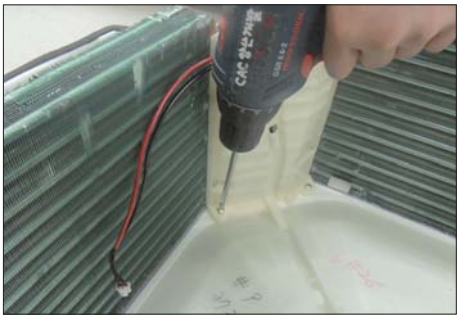
■ Global 4way Cassette type

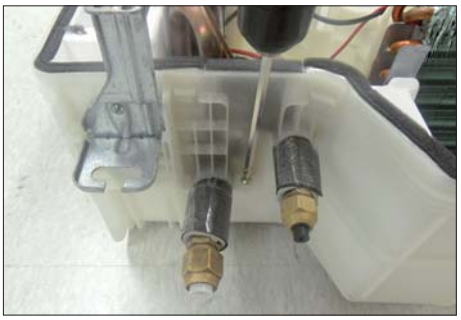
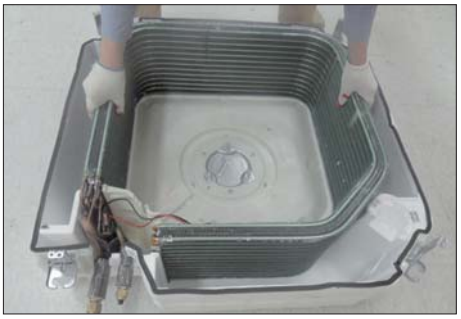
No	Parts	Procedure	Remark
1	Panel	1) Push the handles on both sides of the Samsung logo towards the product's interior to open the Grille.	
		2) Push up the green knob in the Open direction, and detach the white link from the panel. Detach the safety clip.	
		3) Remove the 2 fixed screws to remove the Control-Box Cover. (Use +Screw Driver)	
		4) Remove the Remocon-Receiver and Blade Connector Wire from the PBA. (3EA)	
		5) Push the 4 panel corners and cover downwards to remove it.	

No	Parts	Procedure	Remark
		6) Disassemble the bolts that are assembled with the indoor unit at the 4 panel corners.	
		7) Press the Steel Hangers at both sides of the panel inwards, and rotate them 90 degrees to remove it from the indoor unit's Hock. Remove the panel from the indoor unit.	
2	Control-Box	1) Disconnect the Connector Wire that is connected to the indoor unit's PBA from the PBA.	
		2) Unscrew the 2 fixed screws on both sides of the Control Box, and disassemble the Control Box from the indoor unit. (Use +Screw Driver)	 

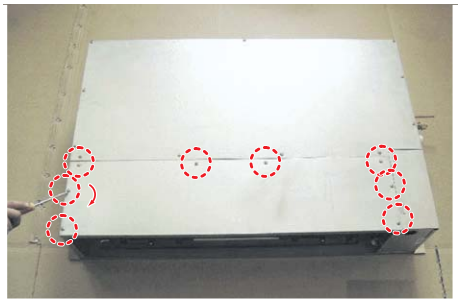
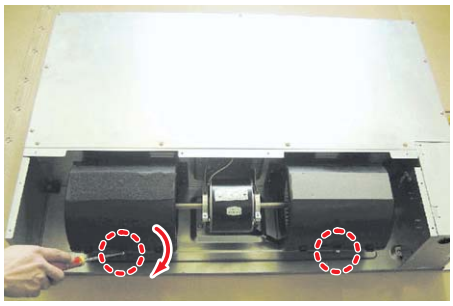
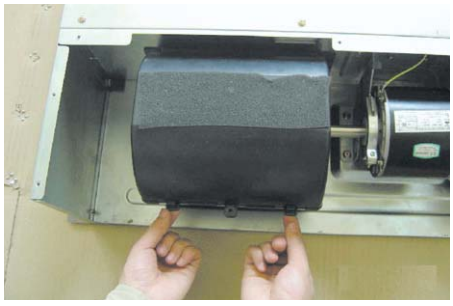
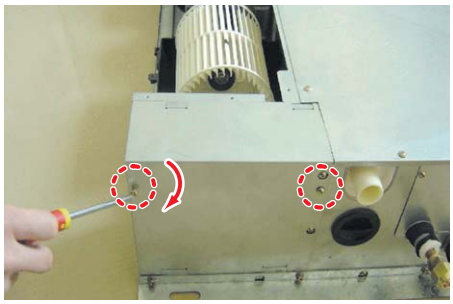
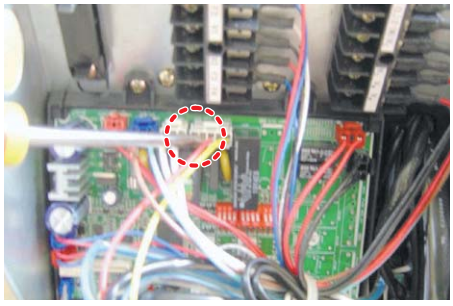
No	Parts	Procedure	Remark
3	Bell-Mouth	1) Unscrew the screw fixed on the Bell-Mouth. (Use +Screw Driver)	
		2) Push the Bell-Mouth in the direction opposite to where it's installed on the Control-Box to remove it.	
4	Drain Pan	1) Unscrew the screws on the 4 corners of the indoor unit. (Use +Screw Driver)	
		2) Remove the Drain Pan from the indoor unit.	

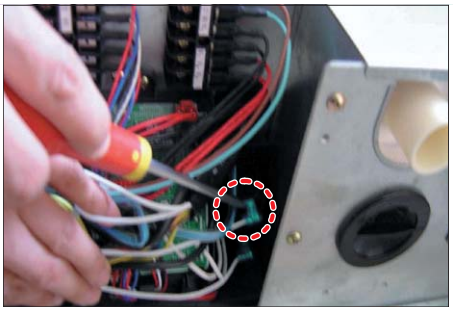
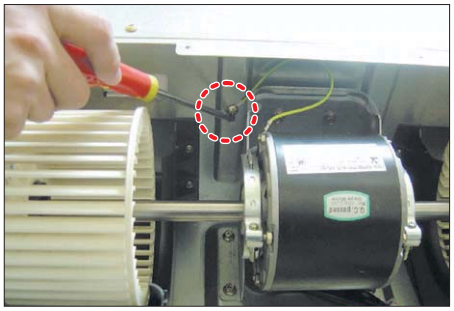
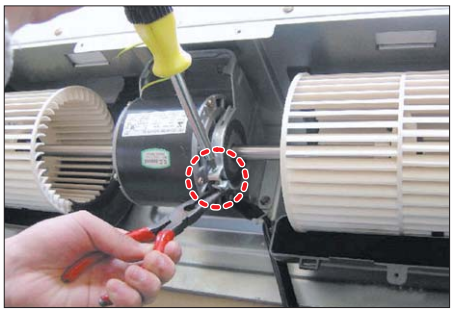
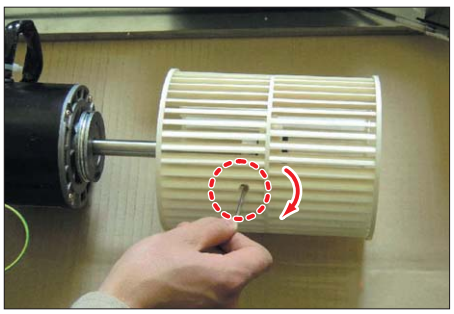
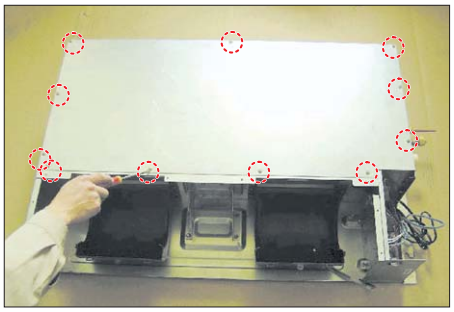
No	Parts	Procedure	Remark
5	Drain Pump & Hose	1) Remove the 2 fixed screws and disconnect the white drainage hose from the Drain Pump. (Use +Screw Driver)	
		2) Remove the 2 screws and take the Drain-Hose out from the indoor unit to disassemble the transparent Drain-Hose fixed on the side of the indoor unit. (Use +Screw Driver)	
6	Evap. Temperature Sensor	1) Use your hand to remove the temperature sensor attached to the Evap Pipe along with the fixing clip.	

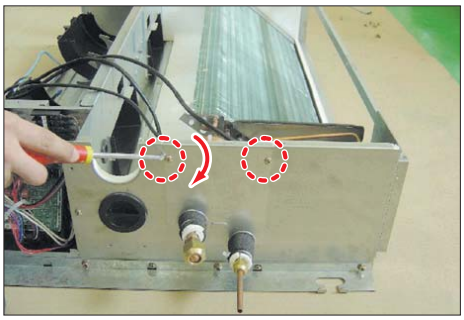
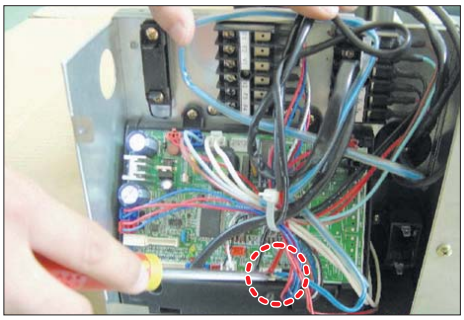
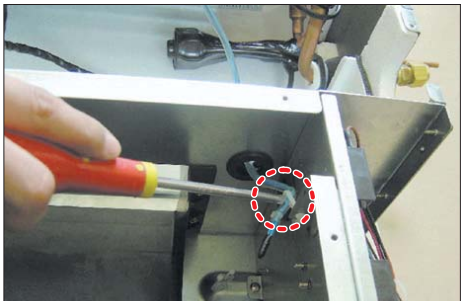
No	Parts	Procedure	Remark
7	Fan & Motor	1) Turn the hexangular nut attached to the top of the Fan counterclockwise to remove it. Take the Fan out of the Motor.	
		2) Turn the three hexangular nuts on the Motor counterclockwise to remove the nuts. Take the Motor Wires attached to these three locations out with your hands prior to removing the Motor.	
8	Evaporator	1) Remove the screws of the 2 Steel Holder Evaps that are used to fix the Heat Exchanger, and then remove it. (Use +Screw Driver)	
		2) Remove the 2 fixing screws of the Partition Evap at the Heat Exchanger's In/Out Pipe. (Use +Screw Driver)	

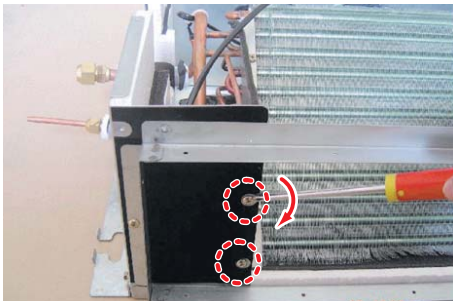
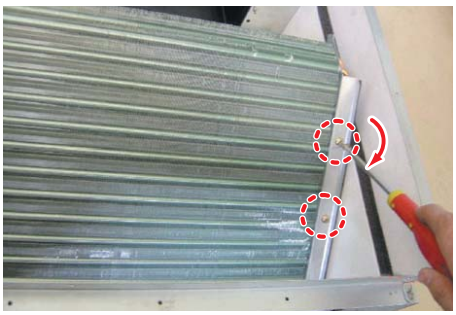
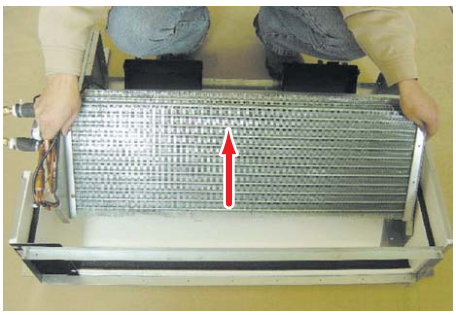
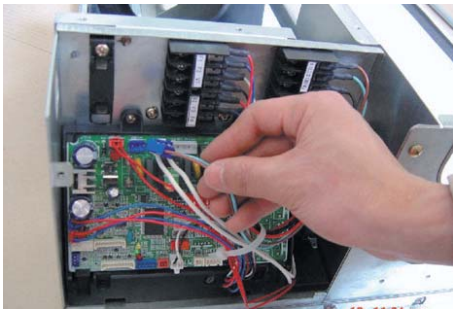
No	Parts	Procedure	Remark
		3) Remove the screw of the Cover Pipe that is used to fix the In/Out Pipe. Remove the In/Out Pipe. (Use +Screw Driver)	
		4) Remove the Heat Exchanger from the indoor unit's cabinet.	

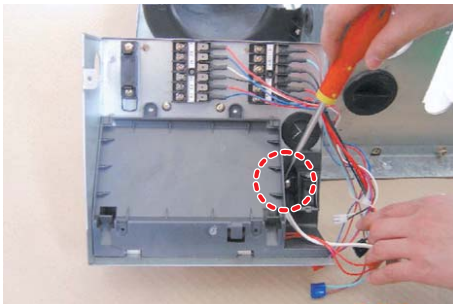
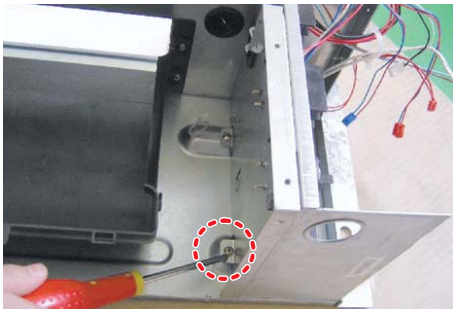
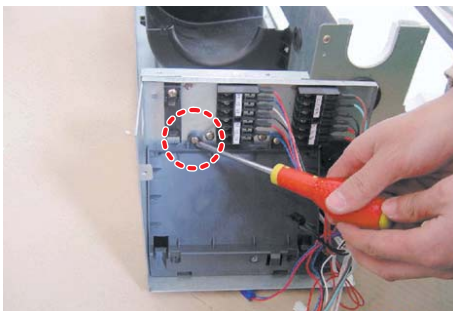
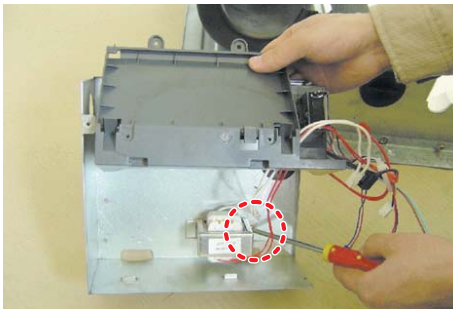
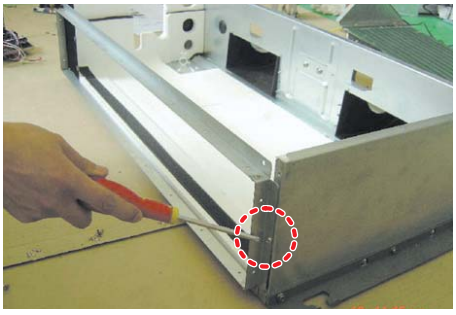
■ Duct type(Slim1,2)

No	Parts	Procedure	Remark
1	Motor & Blower	1) Disassemble the Cabinet-Top Motor. – Unscrew 8 screws	
		2) Disassemble 2 Cover Blower Uppers. – After unscrewing 2 screws	
		– Disassemble the Cover Blower Upper with pushing its hook.	
		3) Disassemble the Cover Control. – Unscrew 2 screws	
		4) Disassemble Motor Wires connected to the inside of PCB and connected to the Capacitor.	

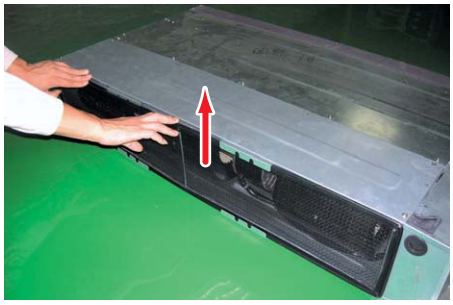
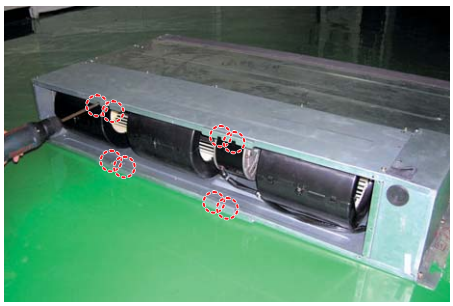
No	Parts	Procedure	Remark
			
		5) Disassemble the Motor earth wire connected to the Partition. – Unscrew a screw	
		6) Disassemble the band Motor for fixing the Motor. – Unscrew 2 screws	
		7) After disassembling the Motor and Blower for the set, disassemble the Blower by use of 3mm wrench.	
2	Ass'y Drain Pan	1) Disassemble the Cabinet-Top Evap. – Unscrew 11 screws	

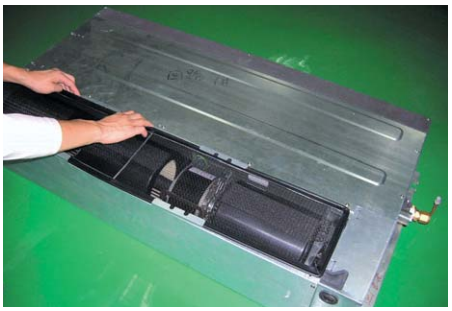
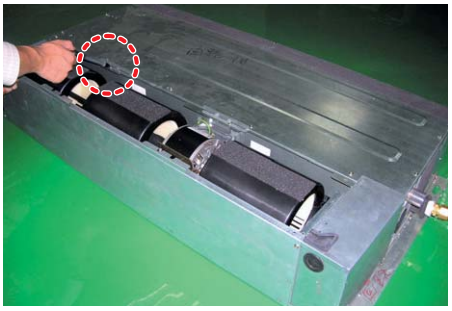
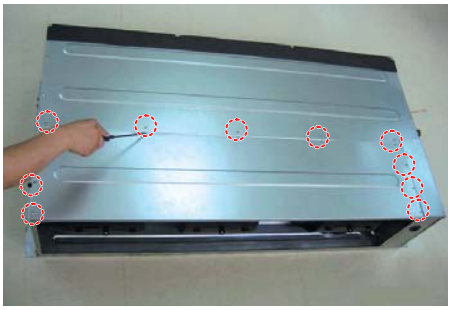
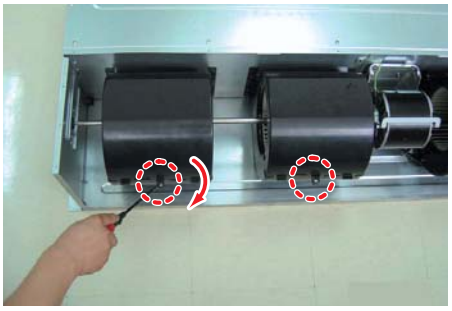
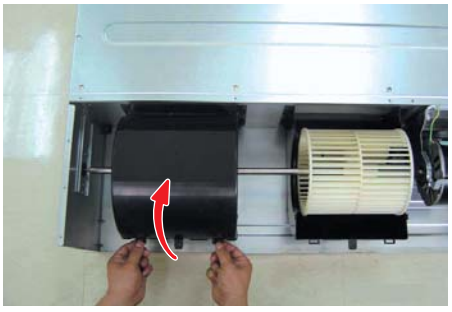
No	Parts	Procedure	Remark
		2) Disassemble the Bracket Outlet Sub that fixes the Drain Pan equipped on the front of the set. – Unscrew 6 screws	
		3) Disassemble the Drain Cushion from the set.	
3	Ass'y Evap	⚠ **The Evaporator should be disassembled after disassembling the Cover Control 1-3) and the Drain Pan 2-1), 2-2), 2-3).** 1) Disassemble the Cover Pipe that fixes the high/low pressure Pipe. – Unscrew 2 screws	
		2) Disassemble the refrigerant temperature sensor, Inlet air temperature sensor, and EEV wire that connected to the inside of PCB.	 

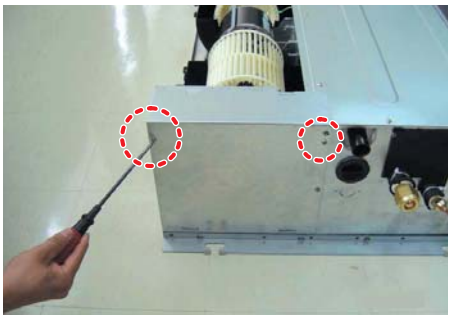
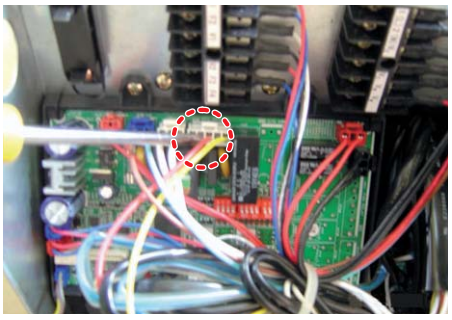
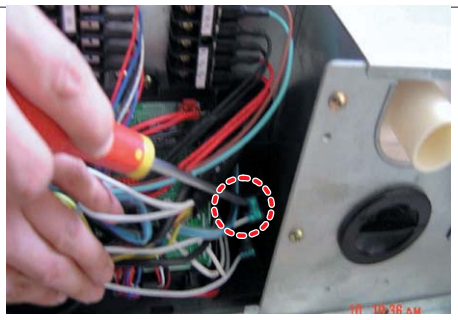
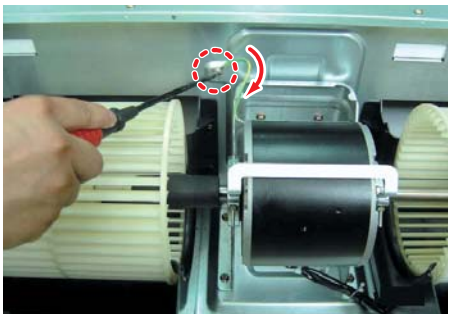
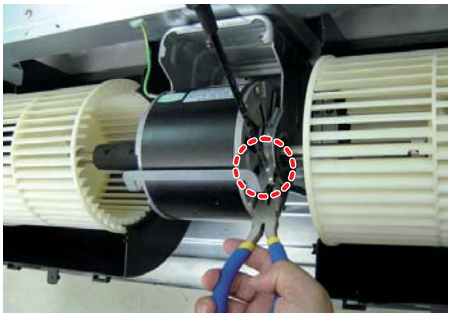
No	Parts	Procedure	Remark
		3) Disassemble the Support Evap. LF that fixes the Evaporator. – Unscrew 2 screws	
		4) Disassemble the Support Evap RH. – Unscrew 2 screws	
		5) Disassemble the Evaporator form the set.	
4	Ass'y Control In	⚠ **The Control In should be disassembled after disassembling the Cover Control 1-3).** 1) Disassemble all Control Wires connected to the inside of PCB. 2) In case of disassembling the PCB separately, disassemble the PCB from the case with pushing the hook after unscrewing the screw. – Unscrew 1 screw	

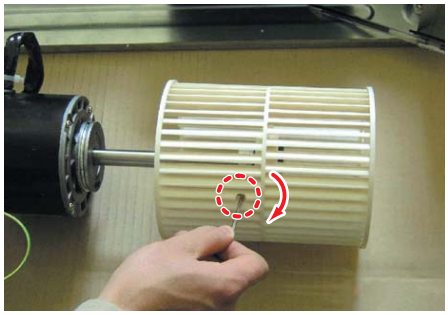
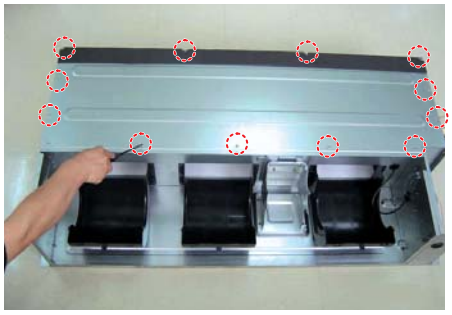
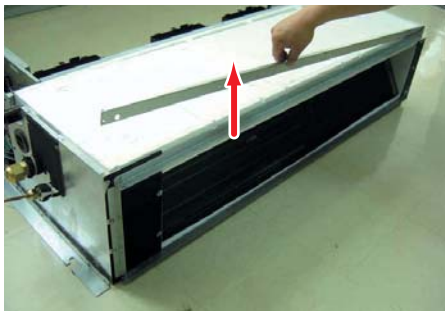
No	Parts	Procedure	Remark
		3) In case of disassembling the Capacitor separately, disassemble the Capacitor from the Case.	
		4) In case of disassembling the Case Control, disassemble the Case Control from the set after unscrewing the screw connected to the direction of Blower. ⚠ **Disassemble if after disassembling the Cabinet Top Motor 1-1).**	
		5) In case of disassembling the Trans Power, unscrew the screw fixing on the Case. ⚠ **Disassemble if after disassembling the case PCB 4-4).**	
5	Bracket Outlet	1) Disassemble the Bracket Outlet assembled on the Cabinet. – Unscrew 10 screws	 

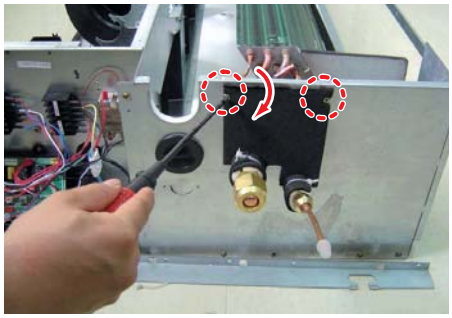
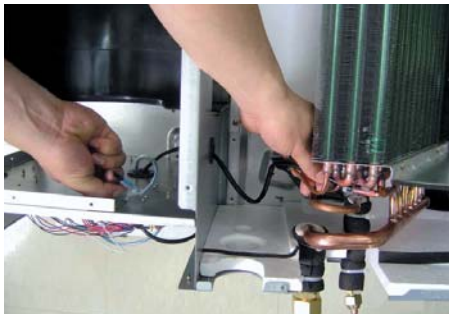
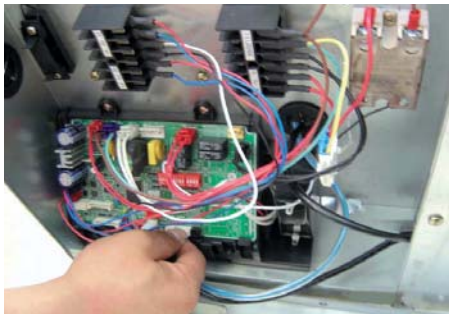
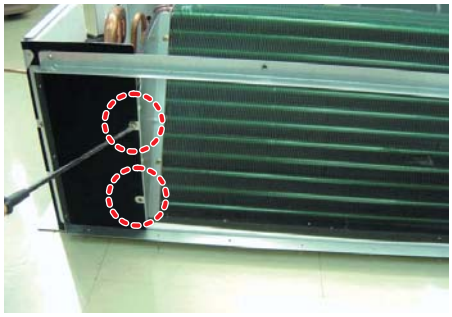
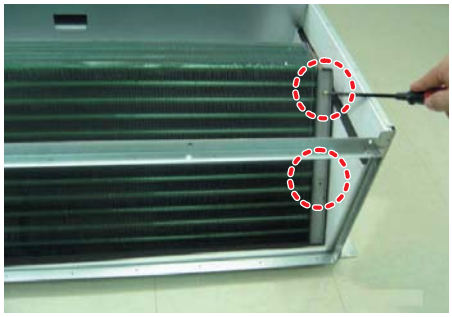
■ Duct type(Slim3)

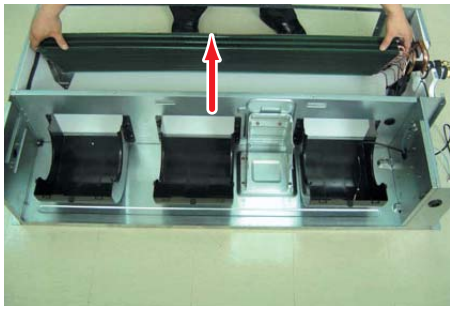
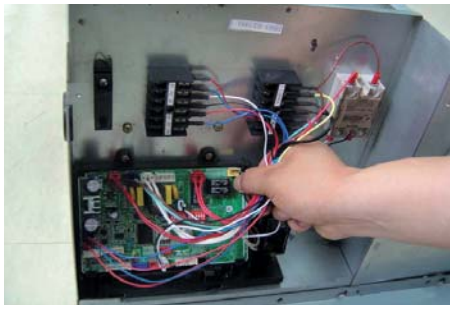
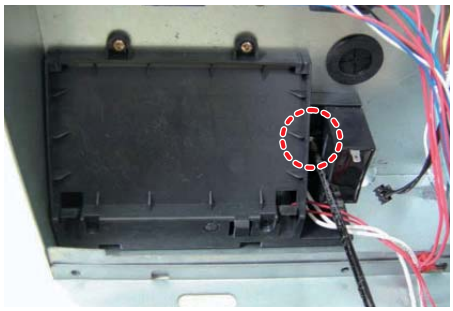
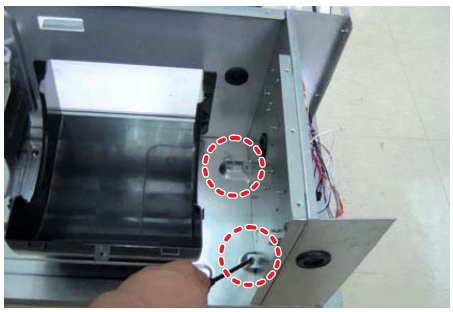
No	Parts	Procedure	Remark
1	Filter	1) DPull out the Filter as picture 1 or picture 2.	
		2) DIf it is necessary, after disassembling 8 indicating screws, detach the Bracket Filter.	

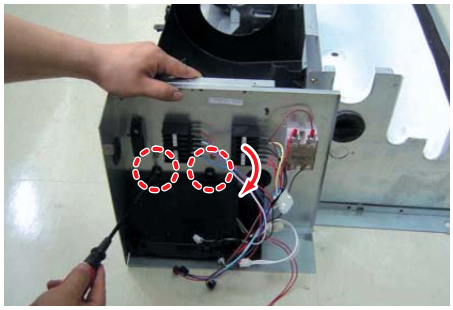
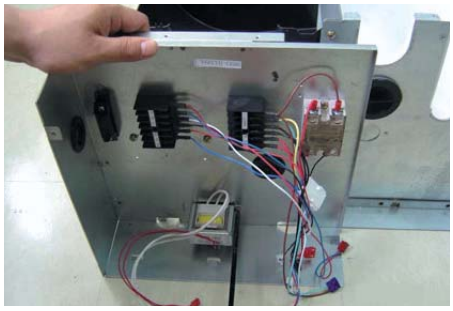
No	Parts	Procedure	Remark
		3) If the Cabinet-Top Motor is assembled on the side of the set,the procedure of disassembling the Filter is just as the above.	 
5	Bracket Outlet	1) After disassembling 13 indicating screws, detach Ass'y Cabinet-Top Motor.	
		2) After disassembling 3 indicating screws, detach Ass'y Case Blower Upper.	
		– Press the pothook of the Case Blower and detach Ass'y Case Blower Upper.	

No	Parts	Procedure	Remark
		3) After disassembling 2 indicating screws, detach the Cover Control.	
		4) Detach the Motor Wire Connected to PCB and Capacitor.	
			
		5) After disassembling the indicating screws, detach the wire connected to the Partition.	
		6) After disassembling 2 indicating screws, detach the Ass 'y Band Motor.	

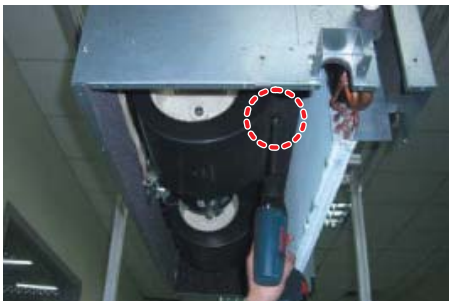
No	Parts	Procedure	Remark
		7) After disassembling the Motor and Blowers, detach the Blowers from the axis of the Motor by 3mm inner hexagon spanner.	
3	Drain Pan	1) After disassembling 15 indicating screws, detach Ass'y Cabinet-Top Evap.	
		2) After disassembling 6 indicating screws, detach the Bracket Outlet.	
		3) Detach the Drain Pan.	

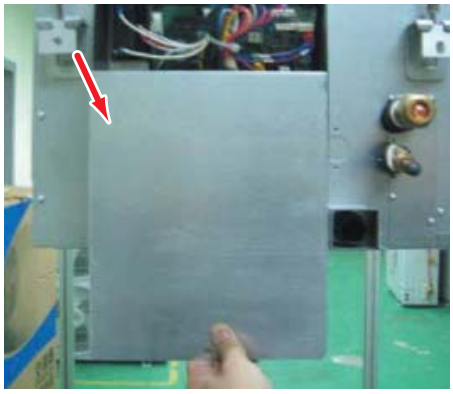
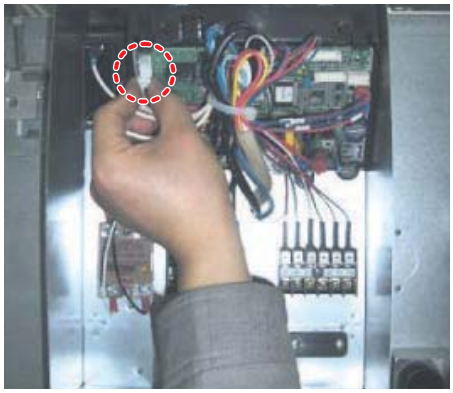
No	Parts	Procedure	Remark
4	Evaporator	⚠ **After finished the procedures above, detach the Evaporator.** 1) After disassembling 2 indicating screws, detach Ass'y Cover Pipe.	
		2) Detach the Sensor from the Control Box. (including 2 Sensors)	 
		3) After disassembling 2 indicating screws, detach Ass'y Support Evap LF.	
		4) After disassembling 2 indicating screws, detach Ass'y Support Evap RH.	

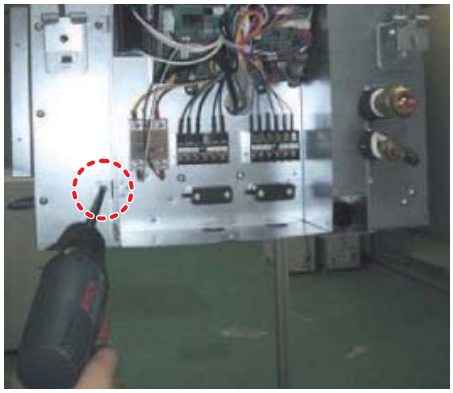
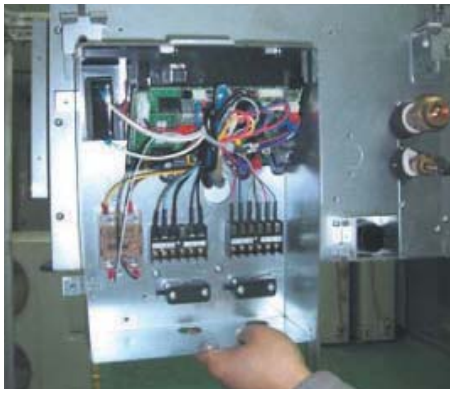
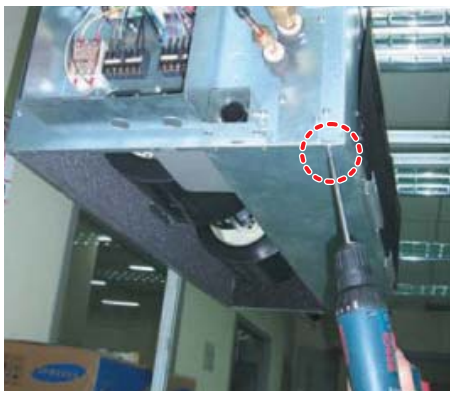
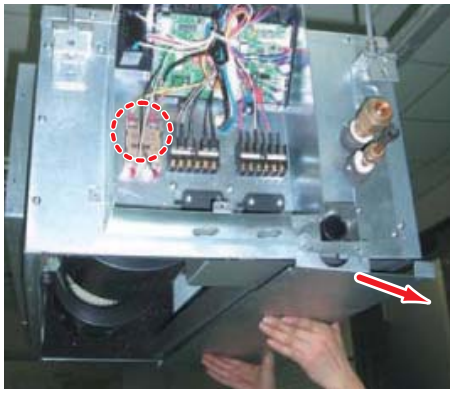
No	Parts	Procedure	Remark
		5) Detach the Evaporator from the set.	
5	Control In	⚠ **Detach the parts of Control In after disassembling the Cover Control.** 1) Detach all the wires connected to the PCB.	
		2) If only the disassembly of PCB required, press the Pothook and detach the PCB from the set.	
		3) If only the disassembly of Capacitor is required,detach it from the set.	
		4) If only the disassembly of Case Control is required,detach it from the set after disassembling 2 indicating screws.	

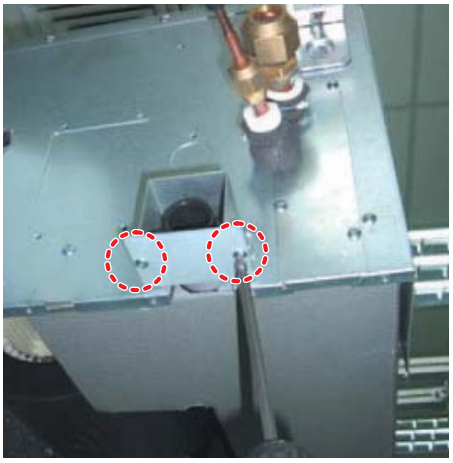
No	Parts	Procedure	Remark
7	Ass'y Cross Fan	5) Detach the Transformer after disassembling 2 indicating screws. ⚠ **Work is possible after disassembling the Case PCB.**	 
6	Ass'y Bracket Outlet	2) After disassembling 16 indicating screws, detach Ass'y Bracket Outlet.	

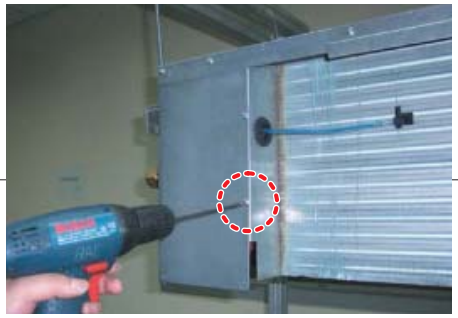
■ Duct type(Mid pressure1

No	Parts	Procedure	Remark
1	Filter	1) After disassembling 16 places indicating screws,detach Ass'y Cabi Bottom Blower. (Use +Screw Driver.)	
		2) Detach from Ass'y Control In the capacitor connection wire between the Motor Fan and housing connector.	
		3) After disassembling 2 places indicating screws,detach the 2 Fan Case. (Use +Screw Driver.)	

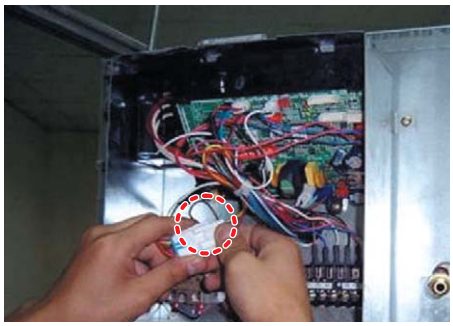
No	Parts	Procedure	Remark
		4) After disassembling 2 places indicating screws,detach Fan Motor and Blower from the set.	
2	Control In	1) After disassembling 1 Indicating screw, detach the Cover control. (Use +Screw Driver.)	
		2) Detach the Motor-Fan and Sensor Connector from the PCB.	

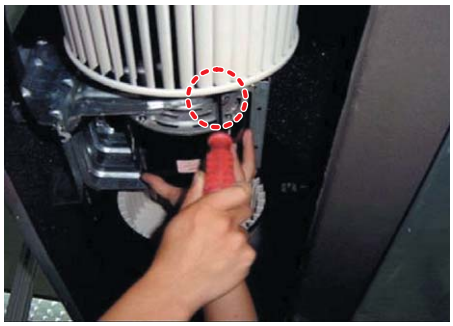
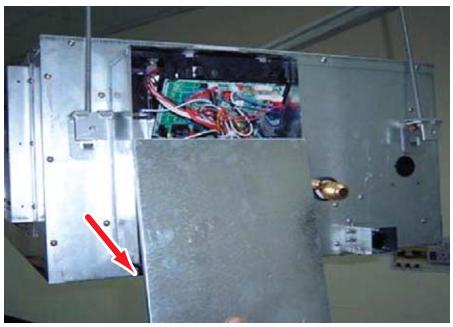
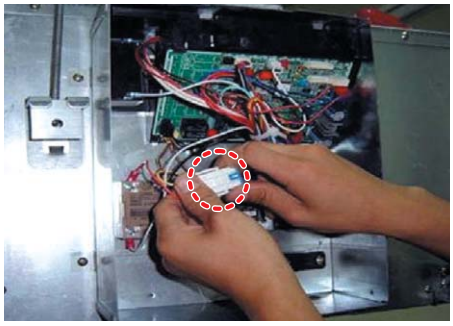
No	Parts	Procedure	Remark
		3) Disassemble 4 indicating screws and detach Control In from the set. (Use +Screw Driver.)	 
3	Drain Pan	※ Work is possible when Disassembling the Ass'y Cabi Bottom Blower. 1) Disassemble 7 indicating screws and detach Ass'y Cabi Bottom Drain. (Use +Screw Driver.)	 

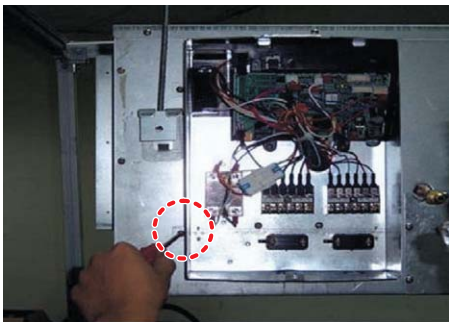
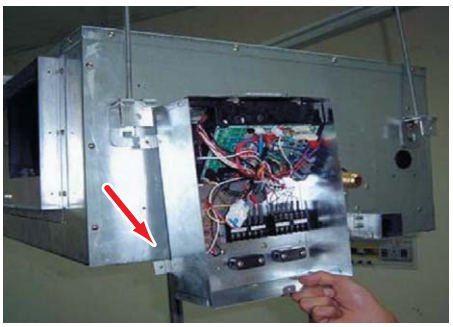
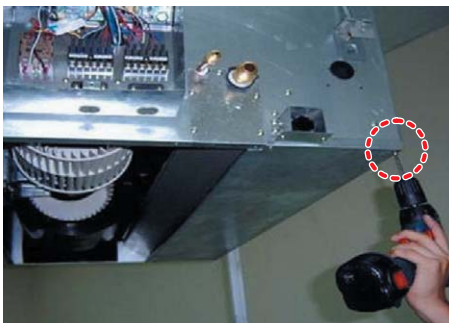
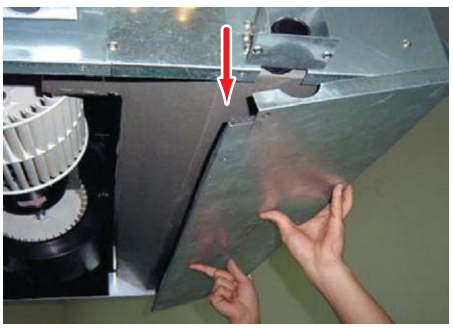
No	Parts	Procedure	Remark
		2) Disassemble 2 indicating screws and detach Holder Pipe. (Use +Screw Driver.)	
		3) Disassemble 4 indicating screws and detach the Drain Pan. (2 screws each at left and right side) (Use +Screw Driver.)	

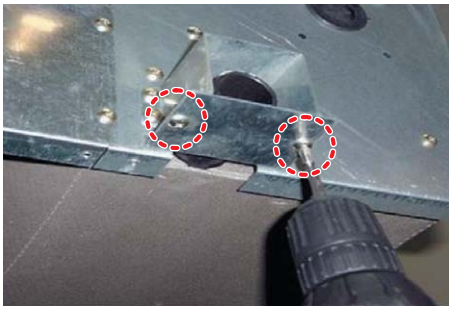
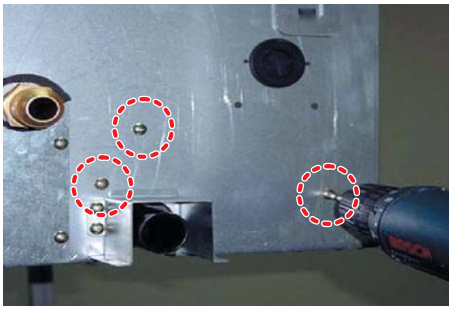
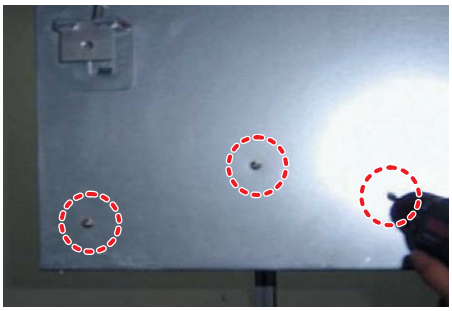
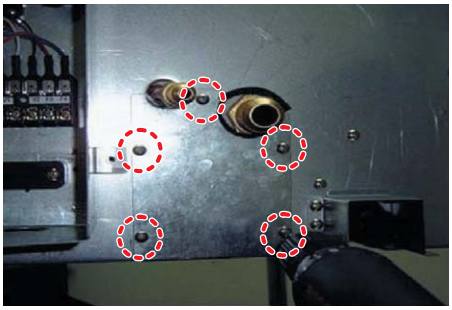
No	Parts	Procedure	Remark
4	Evap	Work is possible when Disassembling the Ass'y Drain Pan. 1) Disassemble 5 indicating screws to detach Cover Pipe.(Use +Screw Driver.)	
		2) Disassemble Sensor on the Evap.	
		3) Disassemble 4 indicating screws which are in the near of Hanger Plate to detach the Evap. (2 screws each at left and right side) (Use +Screw Driver.) ⚠ **It needs 2 peoples.**	

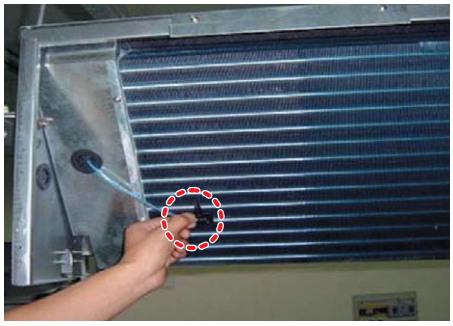
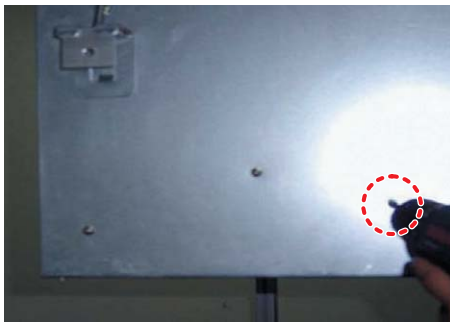
■ Duct type(Mid pressure2)

No	Parts	Procedure	Remark
1	Blower & Motor	1) After disassembling 15 places indicating screws, detach Ass'y Cabi Bottom Blower. (Use +Screw Driver.)	
		2) Detach from Ass'y Control In the capacitor connection wire between the Motor Fan and housing connector.	
		3) After disassembling 4 places indicating screws, detach the 2 Fan Case. (Use +Screw Driver.)	

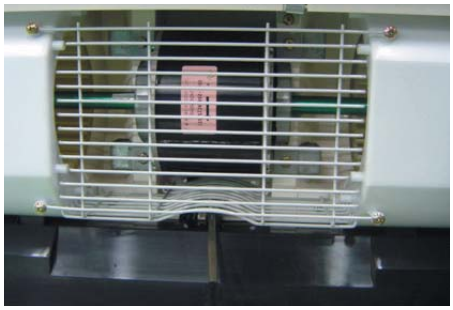
No	Parts	Procedure	Remark
		4) After disassembling 2 places indicating screws, detach Fan Motor and Blower from the set. (Use +Screw Driver.)	
3	Drain Pan	1) After disassembling 1 Indicating screw, detach the Cover control.(Use +Screw Driver.)	
		2) Detach the Motor-Fan and Sensor Connector from the PCB.	

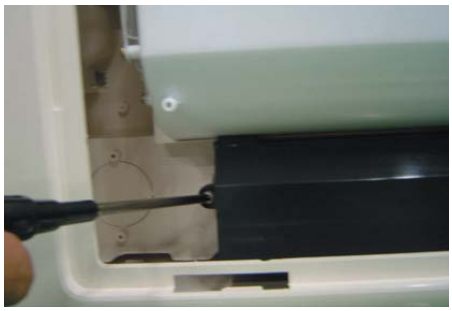
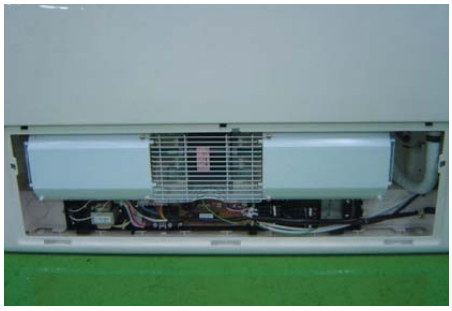
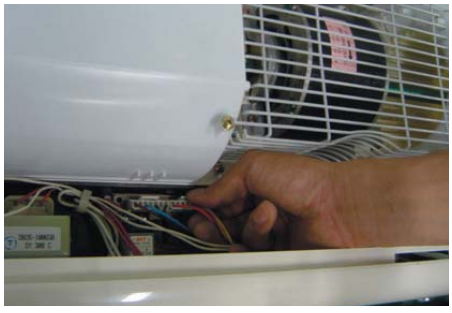
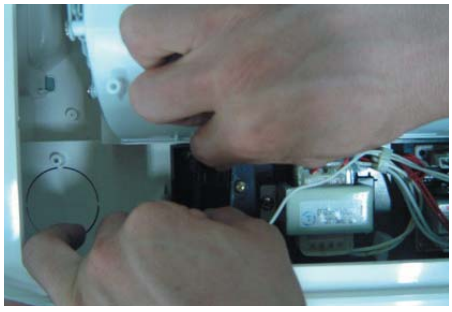
No	Parts	Procedure	Remark
		3) Disassemble 4 indicating screws and detach Control In from the set. (Use +Screw Driver.)	 
3	Drain Pan	※ Work is possible when Disassembling the Ass'y Cabi Bottom Blower. 1) Disassemble 6 indicating screws and detach Ass'y Cabi Bottom Drain. (Use +Screw Driver.)	 

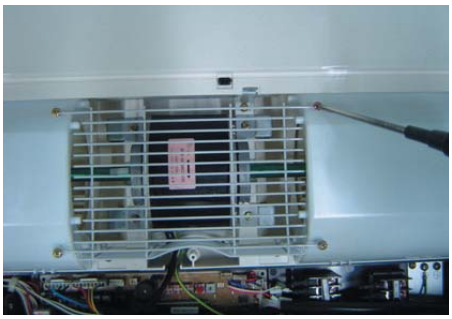
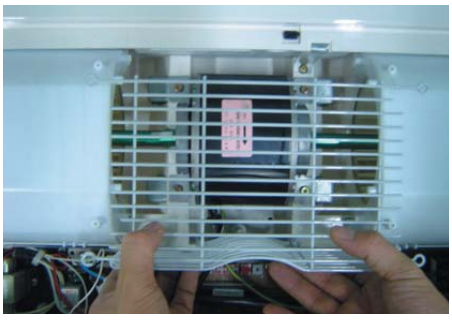
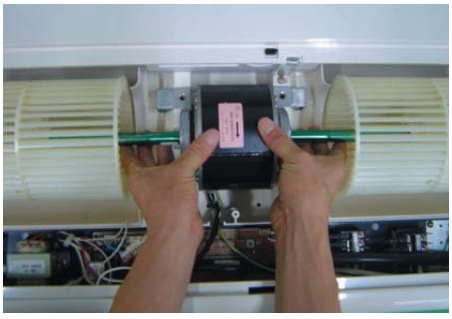
No	Parts	Procedure	Remark
		2) Disassemble 2 indicating screws and detach Holder Pipe. (Use +Screw Driver.)	
		3) Disassemble 6 indicating screws and detach the Drain Pan. (Use +Screw Driver.) (3 screws each at left and right side)	
			
4	Evap	※ Work is possible when Disassembling the Ass'y Cabi Bottom Blower. 1) Disassemble 6 indicating screws and detach Ass'y Cabi Bottom Drain. (Use +Screw Driver.)	

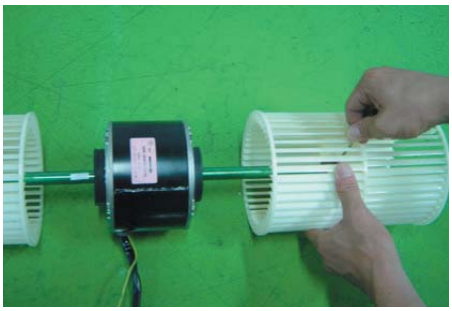
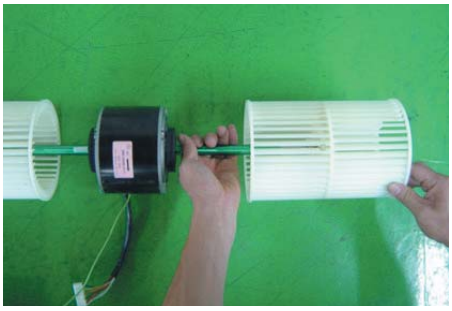
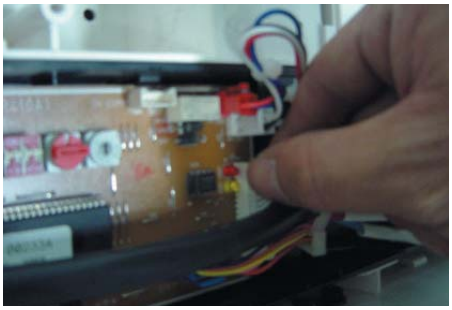
No	Parts	Procedure	Remark
		2) Disassemble Sensor on the Evap.	
		3) Disassemble 2 indicating screws which are in the near of Hanger Plate to detach the Evap. (1 screw each at left and right side) ⚠ **It needs 2 peoples.**	

■ CEILING

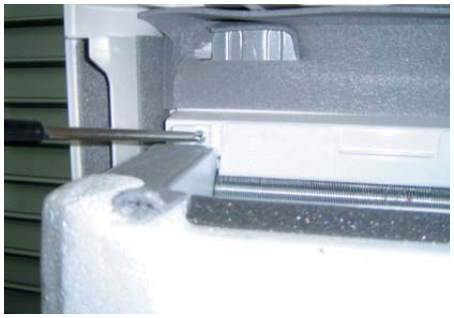
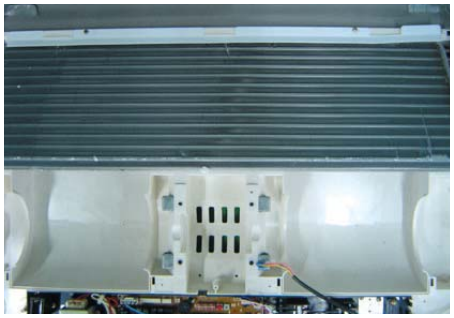
No	Parts	Procedure	Remark
1	Electrical Part	1) Open the Grille by pressing 3 position. (center and both side)	
		2) Detach the Air Inlet Grille.	
		3) Open the Cover of Component Electrical Box by removing 3 screws. (center and both side)	
			

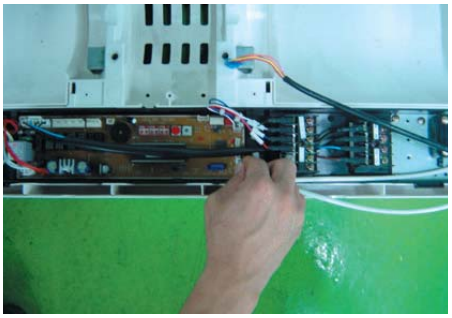
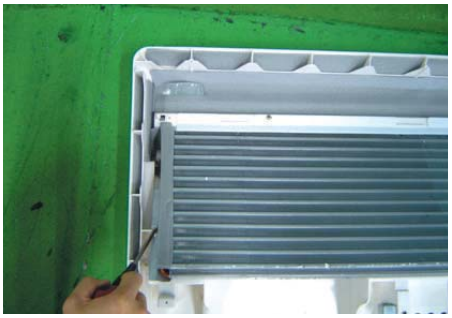
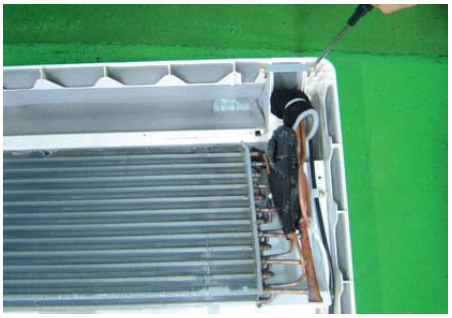
No	Parts	Procedure	Remark
			 
2	Fan & Motor	1) Detach the screw and untie earth wire of Motor.	
		2) Disconnect of housing of Motor Wire.	
		3) Disconnect the Capacitor Wire.	

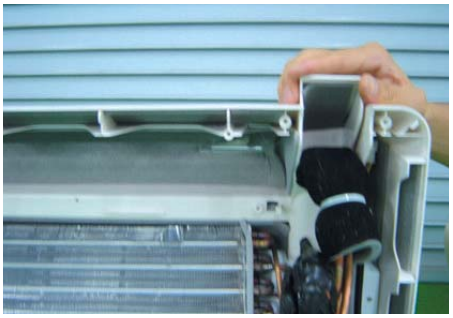
No	Parts	Procedure	Remark
		4) Loosen the Guard Safety by removing 6 screws.	
			
		5) Detach the Upper Case of Fan. (2EA)	
		6) Loosen the 4 screws what is fix the Motor.	
		7) Detach the Fan and Motor assembly.	

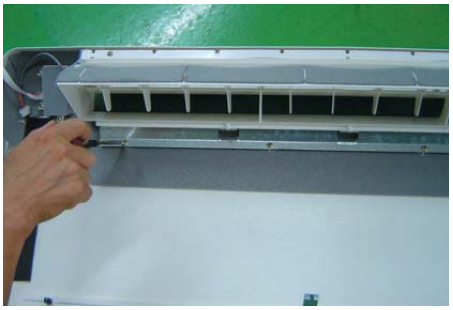
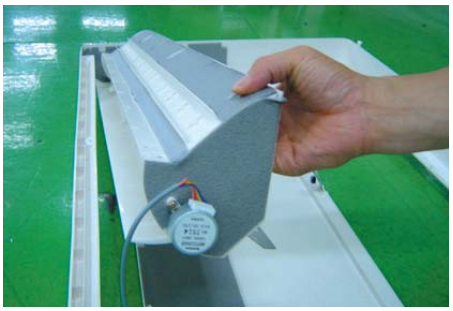
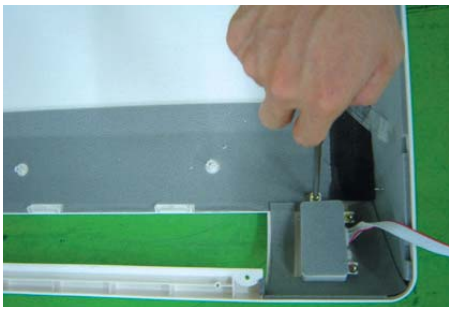
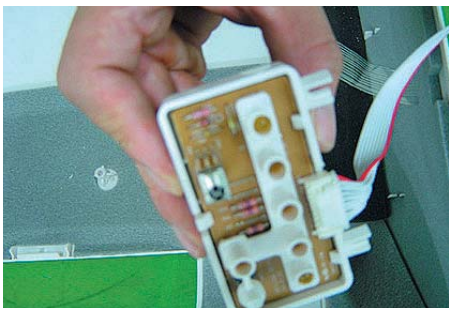
No	Parts	Procedure	Remark
		8) Loosen the set fixing bolts. (with a M3 wrench)	
		9) Detach the Fan.	
3	Drain Pan	1) Disconnect the Display PCB Wire as shown in picture. (white housing)	
		2) Disconnect the Step Motor Wire as shown in picture. (blue housing)	
		3) Disassemble the Hanger Bracket by removing the 1 screw.	

No	Parts	Procedure	Remark
		4) Loosen the 3 screws of Front Side.	
		5) Disassemble the assembly Front Cover Part.	
		6) Disconnect the Step Motor Wire as shown in picture.	
		7) Detach the Wire Clamp fixed in Base Part.	
		8) Detach the Front Cover assembly completely.	

No	Parts	Procedure	Remark
		9) Loosen the screw what is fix with Base Part and Drain Pan. (Upper Side:2EA)	
		10) Loosen the screw what is fix with Base Part and Drain Pan. (Lower Side:2EA)	
		11) Detach the Drain Pan completely.	

No	Parts	Procedure	Remark
		1) Disconnect the Thermistor Wire as shown in picture. (white housing)	
		2) Loosen the 2 screws shown in picture.	
		3) Loosen the 2 screws shown in picture and remove Plastic Part. (white)	
		4) Loosen the 2 screws shown in picture and remove Steel Bracket.	
		5) Disassemble the 4 screws Steel Plate in rear side of the unit.	

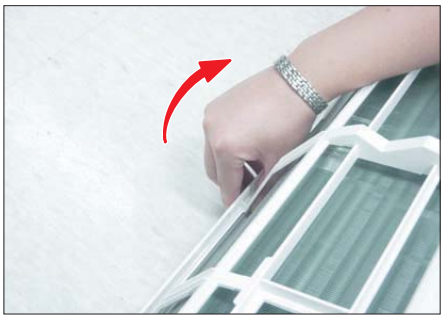
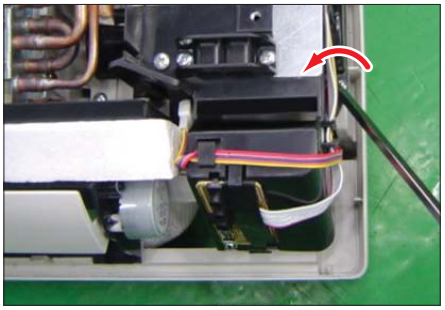
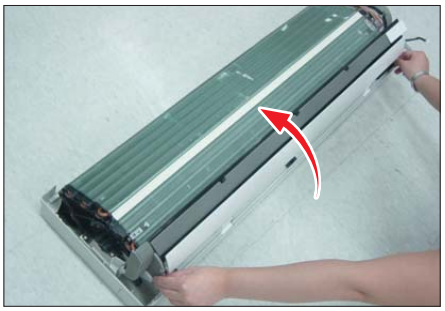
No	Parts	Procedure	Remark
		6 Loosen the 2 screws as shown in picture.	
		7) Detach the Plastic Cover as shown in picture.	
		8) Detach the Evaporator assembly.	

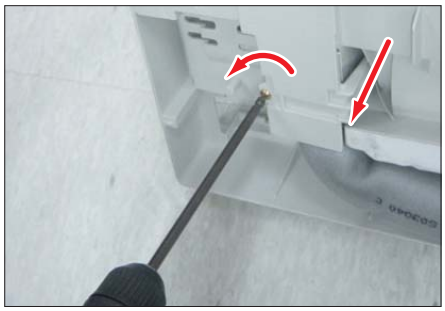
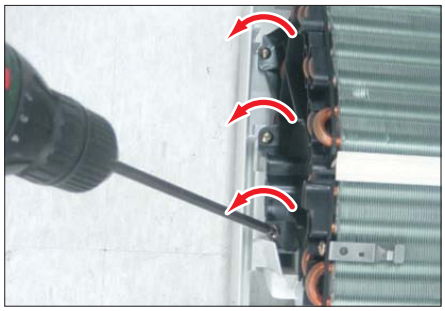
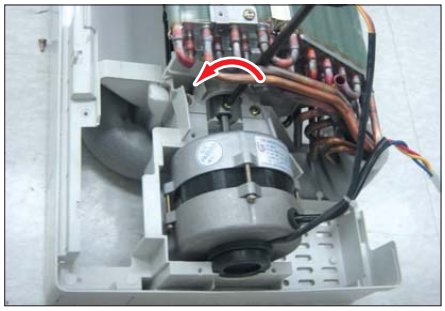
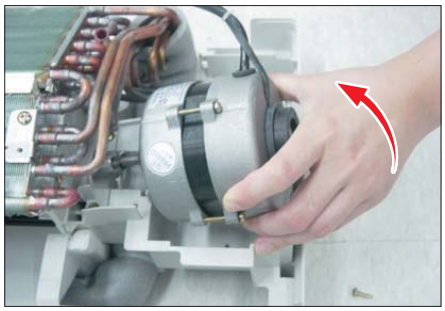
No	Parts	Procedure	Remark
5	Stepping Motor	1) Loosen the 4 screws in rear side of Front Cover assembly as shown in picture.	
		2) Loosen the 2 screws as shown in picture.	
		3) Disassemble the Blade and Stepping Motor assembly and remove the 2 Screws Stepping Motor.	
6	Display PCB	1) Loosen the 3 screws in rear side of Front Cover assembly as shown in picture.	
		2) Disassemble Display PCB assembly and Disconnect Wire. 3) Disassemble the Display PCB.	

■ Wall mounted type (Neo forte)

– All the procedure has to be verified because the cover should not open when the unit is installed.

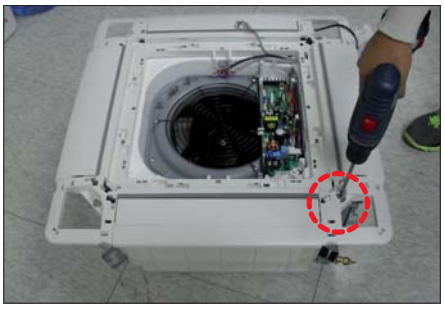
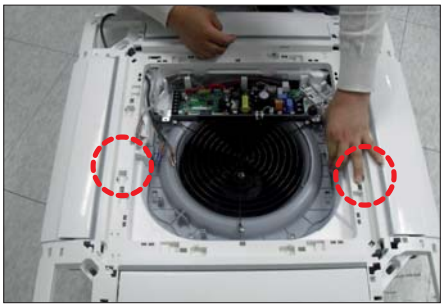
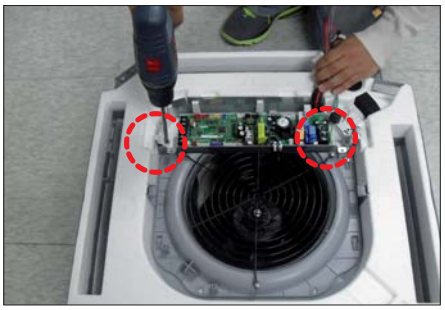
No	Parts	Procedure	Remark
1	Front Grille	1) Stop the air conditioner operation and shut off the main power.	
		2) Open the Front Grille by pulling right and left sides of the hook.	
		3) Loosen 1 of the right screw(CCW) and detach the Terminal Cover. (Use +Screw Driver.) 4) Detach the thermistor from the Front Grille.	
		5) Loosen 2 fixing screws(CCW) of Front Grille.	
		6) Unlock 3 hooks to fix Panel Front and Tray Drain. (Use +Screw Driver.)	

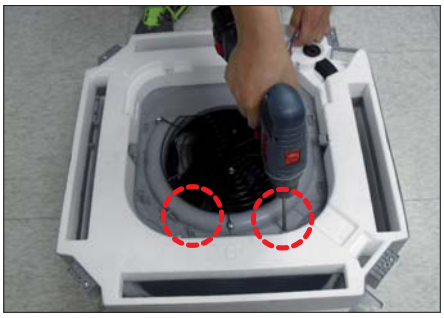
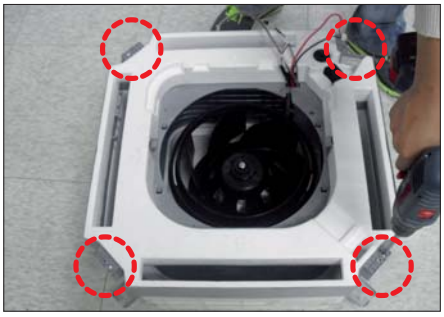
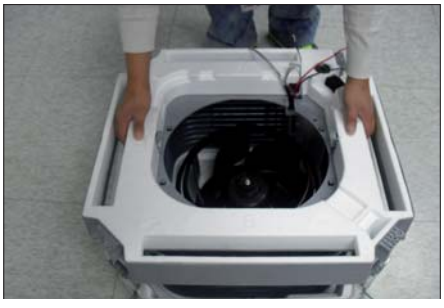
No	Parts	Procedure	Remark
		7) Unlock 3 hooks to fix Panel Front and Back-Body.	
2	Control-In (Main PCB)	1) Take all the connector of PCB upper side out. (Inclusion Power Cord) 2) Detach the outdoor unit connection wire from the Terminal Block. 3) Loosen 4 fixing screws(CCW) of Ass'y Control-In. (Use +Screw Driver.) ⚠ **You can disassembly Ass'y Control In without evaporator disassembled.**	
3	Tray Drain	1) Pull Tray Drain out from the Back Body.	

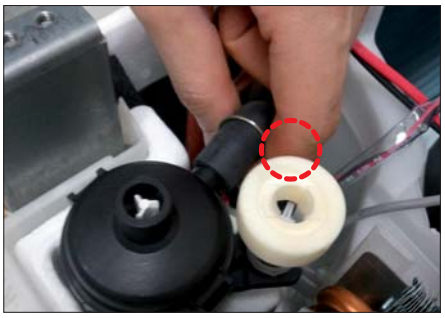
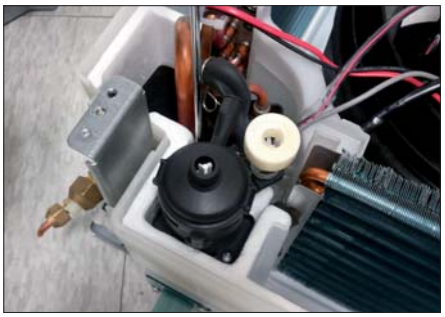
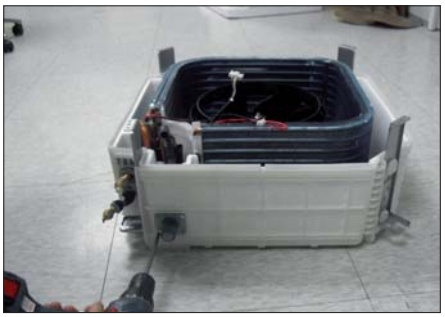
No	Parts	Procedure	Remark
4	Heat Exchanger	1) Loosen 2 fixing earth screws(CCW) of right side. (Use +Screw Driver.) 2) Detach the Connection Pipe. 3) Detach the Holder Pipe at the rear side.	
		4) Loosen the 4 fixing screws(CCW) of right and left side. (Use +Screw Driver.) 5) Lifting the Heat Exchanger up a little to push the up side for separation from the indoor unit. ⚠ **First, check Comp. Down and then disconnect the connection pipes before you disassemble the Evaporator from indoor unit.**	
5	Fan Motor & Cross Fan	1) Loosen the fixing screw(CCW). (Use +Screw Driver.) 2) Detach the Fan Motor from the Fan. 3) Detach the Fan From the left Holder Bearing.	
			

■ Global Mini 4way

No	Parts	Procedure	Remark
1	Panel	1) Pull both hooks and take the grille downward. Two safety clips are mounted to the front grille to prevent it from dropping.	
		2) Detach the safity clip and take up the grille.	
		3) Remove the 2 fixed screws to remove the Control-Box Cover. (Use +Screw Driver)	
		4) Remove the Remocon-Receiver and Blade Connector Wire from the PBA. (3EA)	
		5) Push the 4 panel corners and cover downwards to remove it.	

No	Parts	Procedure	Remark
		6) Disassemble the bolts that are assembled with the indoor unit at the 4 panel corners. 7) Press the Hangers at both sides of the panel inwards, to remove it from the indoor unit's hook. Remove the panel from the indoor unit.	 
2	Control-Box	1) Disconnect the Connector Wire that is connected to the indoor unit's PBA 2) Unscrew the 2 fixed screws on both sides of the Control Box, and disassemble the Control Box from the indoor unit. (Use +Screw Driver)	 

No	Parts	Procedure	Remark
3	Bell-Mouth	1) Unscrew the screw fixed on the Bell-Mouth. (Use +Screw Driver)	
		2) Push the Bell-Mouth in the direction opposite to where it's installed on the Control-Box to remove it.	
4	Drain Pan	1) Unscrew the screws on the 4 corners of the indoor unit. (Use +Screw Driver)	
		2) Remove the Drain Pan from the indoor unit.	

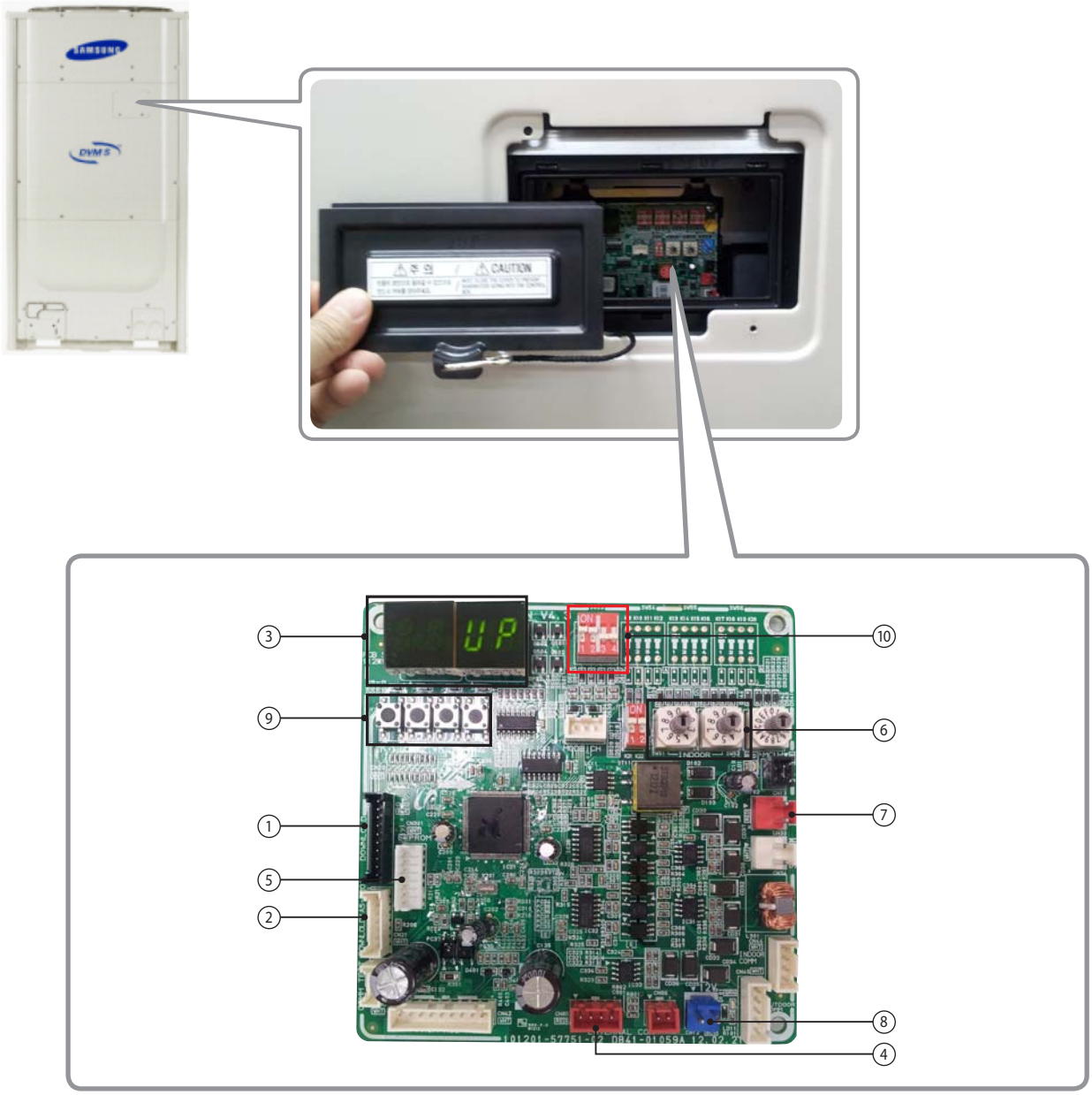
No	Parts	Procedure	Remark
5	Drain Pump & Hose	1) Remove the 2 fixed screws and disconnect the white drainage hose from the Drain Pump. (Use +Screw Driver)	 
		2) Remove the 2 screws and take the Drain-Hose out from the indoor unit to disassemble the transparent Drain-Hose fixed on the side of the indoor unit. (Use +Screw Driver)	
6	Evap. Temperature Sensor	1) Use your hand to remove the temperature sensor attached to the Evap Pipe along with the fixing clip.	

No	Parts	Procedure	Remark
7	Fan & Motor	1) Turn the hexangular nut attached to the top of the Fan counterclockwise to remove it. Take the Fan out of the Motor.	
		2) Turn the three hexangular nuts on the Motor counterclockwise to remove the nuts. Take the Motor Wires attached to these three locations out with your hands prior to removing the Motor.	
8	Evaporator	1) Remove the screws of the Steel Holder Evaps that are used to fix the Heat Exchanger, and then remove it. (Use +Screw Driver)	
		2) Remove the 2 fixing screws of the Partition Evap at the Heat Exchanger's In/Out Pipe. (Use +Screw Driver)	

No	Parts	Procedure	Remark
		3) Remove the screw of the Cover Pipe that is used to fix the In/Out Pipe. Remove the In/Out Pipe. (Use +Screw Driver) 4) Remove the Heat Exchanger from the indoor unit's cabinet.	

4. Troubleshooting

4-1 Check-up Window Description



No.	Function	No.	Function
1	CN22 download (PC) (SMW200-10 black)	6	Set up the number of connected outdoor units
2	MICOM. download (AS-PRO) (SMW200-07P white)	7	For checking indoor unit communication (YW396-02P red)
3	ERROR DISPLAY	8	Transmitter 12V (YW396-02P blue)
4	State Check (SMW250-04P red)	9	Outdoor Unit Tact Switch
5	EEPROM SOCKET	10	Outdoor Unit Dip Switch

4-2 Service Operation

4-2-1 Special Operation

► Key input of the outdoor unit when the service enters the operation mode.

K1 (Number of press)	Key operation	Display on segment
1 time	Refrigerant charging in Heating mode	K, 1, BLANK, BLANK
2 times	Trial operation in Heating mode	K, 2, BLANK, BLANK
3 times	Pump out in Heating mode (Outdoor unit address 1)	K, 3, BLANK, 1
4 times	Pump out in Heating mode (Outdoor unit address 2)	K, 3, BLANK, 2
5 times	Pump out in Heating mode (Outdoor unit address 3)	K, 3, BLANK, 3
6 times	Pump out in Heating mode (Outdoor unit address 4)	K, 3, BLANK, 4
7 times	Vacuumig (Outdoor unit address 1)	K, 4, BLANK, 1
8 times	Vacuumig (Outdoor unit address 2)	K, 4, BLANK, 2
9 times	Vacuumig (Outdoor unit address 3)	K, 4, BLANK, 3
10 times	Vacuumig (Outdoor unit address 4)	K, 4, BLANK, 4
11 times	Vacuuming (All outdoor units)	K, 4, BLANK, A
12 times	End Key operation	-
Press and hold 1 time	Auto trial operation	K, K, BLANK, BLANK

K2 (Number of press)	Key operation	Display on segment
1 time	Refrigerant charging in Cooling mode	K, 5, BLANK, BLANK
2 times	Trial operation in Cooling mode	K, 6, BLANK, BLANK
3 times	Pump down all units in Cooling mode	K, 7, BLANK, BLANK
4 times	H/R: Checking the pipe connection H/P: Automatic setting of operation mode (Cooling/Heating) for trail operation	K, 8, BLANK, BLANK
5 times	Checking the amount of refrigerant	"K""9" X X (Display of last two digits may differ depending on the progress)
6 times	Discharge mode of DC link voltage	K, A, BLANK, BLANK
7 times	Forced defrost operation	K, B, BLANK, BLANK
8 times	Forced oil collection	K, C, BLANK, BLANK
9 times	End Key operation	-

※ Inv1 & Inv2 voltage during discharge mode are displayed alternately.

※ Outdoor Power Off even when the Inverter PCB, Fan PCB is a high DC voltage charging contacts at danger.

※ When you run the repair and replacement of the PCB should work after the power is turned off, the DC voltage discharge.
(Natural discharge until Please wait for at least 15 minutes.)

※ If an error occurs, the discharge mode may not work properly.
In particular, E464 & E364 is power devices can be damaged.
Therefore, the discharge mode, do not use.

■ Commissioning

► After initial installation, stable operation for a certain period of time limited to operation conditions.

	Cooling	Heating
Method of Entry	K2 Tact Switch twice	K2 Tact Switch twice
Compressor	Normal operation, but the maximum frequency limit (differ by model)	
Indoor Unit	Whole operation (The set temperature=3˚C)	Whole operation (The set temperature=40˚C)
Outdoor fan and valves	Normally control conduct	
Operation time	Min : 60 minutes, Max : 10 hours	
Etc.	· Exceed the maximum operating time at stops and waits. · Protection and control, self-diagnosis is performed.	

■ Refrigerant filling operation

► Operation to filling the refrigerant compressor was fixed at a certain frequency.

	Cooling	Heating
Method of Entry	K2 Tact Switch one time	K1 Tact Switch one time
Compressor	Starting frequency (Mild Start frequency) operation	
Indoor Unit	Whole operation (The set temperature=3˚C)	Whole operation (The set temperature=40˚C)
Outdoor fan and valves	Normally control conduct	
Operation time	60 minutes	
Etc.	During the filling operation does not enter the special operation, such as oil recovery, defrost.	

■ Heating Pump Out

► Operation for the repair of the Individual outdoor unit, the outdoor unit refrigerant emissions to the indoor part.
► Liquid pipe service valve and the gas pipe service valve operation, the operator manually need to close.

► Observe low pressure using View Mode of K4 button if compressor operate.
If low pressure goes down below about 0.2 MPa.g : Immediately lock the gas side service valve, Pump Out operation is shut down.
(Pump out operation shut down : K1 button once more press or K3 button one time press)
► If operation of low pressure goes down below 0.1 MPa.g : Will be stopped automatically for the protection of the compressor.

How to Initiate	K1 Tact Switch 3 times~6 times
Compressor	60Hz
Indoor Unit	Whole Operation (The set temperature=40℃)
4Way Valve	ON (Heating Mode)
Outdoor Fan	Maximum air flow
Main EEV	Operation side : 700 Step (Stop side : 0 step)
Maximum Operation Time	10 minutes
Protection Control	Conduct the discharge temperature, high pressure control. (Low pressure protection control is not carried out) ※ Low pressure is outside normal limits : Operation is shut down after gas pipe manually closed.
Etc.	Entry after safety start. (Only the corresponding Outdoor Unit operation.) To pump out more than 2 : Except communication between Outdoor Unit of relevant set after working for one, remainder set makes Pump Out add.

■ Cooling Pump Down

► Recover the refrigerant of Indoor Unit and Piping to outdoor side.
► Liquid pipe service valve and the gas pipe service valve operation, the operator manually need to close.
► If the installation of the long pipe : Any refrigerant into the outdoor unit can not be recovered, therefore should use a separate container.
► Observe low pressure using View Mode of K4 button if compressor operate.
If low pressure goes down below about 0.2 MPa.g : Immediately lock the gas side service valve, Pump Out operation is shut down.
(Pump out operation shut down : K1 button once more press or K3 button one time press)
► If operation of low pressure goes down below 0.1 MPa.g : Will be stopped automatically for the protection of the compressor.

How to Initiate	K2 Tact Switch 3 times
Compressor	Address No.1 Outdoor Unit - 60Hz (Other Outdoor Unit COMP OFF)
Indoor Unit	Whole Operation (The set temperature=3℃)
4Way Valve	OFF (Cooling Mode)
Outdoor Fan	Maximum air flow
Main EEV	Operation side : 2000 Step , Stop side : 2000 step
Maximum Operation Time	30 minutes
Etc.	Does not conduct the operation of the special operation, and protection control. Pressure and temperature is outside normal limits : Operation is shut down after gas pipe manually closed.

■ Vacuum Operation

► Operation to facilitate vacuum to open the valve after the Outdoor Unit repair.

How to Initiate	K1 Tact Switch 7 times~11 times
Compressor	OFF
Indoor Unit/Outdoor Fan	OFF
4Way Valve	OFF
Valves	Open all valves maximum
Etc.	If not turn off the vacuum mode, the start of normal operation is prohibited.

■ Piping Inspection Operation

► Operation mode to check the status of the piping between the MCU and the indoor unit.

► Heat Pump Model : Outdoor temperature is more than 15℃ / Cooling commissioning start
Outdoor temperature is less than 15℃ / Heating commissioning start

■ Discharge Mode Operation

► Outdoor power is turned off, the Inverter PCB and Fan PCB charging a high DC voltage, so dangerous to touch.
- To replace the PCB, first turn off the power and the begin if DC voltage is discharged.
- If not use the discharge mode, the discharge time of about 15 minutes takes.
- If an error occurs, the discharge mode may not properly run. (Wait until natural discharge.)
- In particular, E 464, E364, power devices may be damaged, therefore do not use the discharge mode.

► Block the Inverter PCB 3-phase relay after connected the power, and through compressor, DC voltage is discharging.
- INV1 and INV2 DC voltage during discharge mode are displayed alternately.
- Discharge mode Display (Rotate the three page display, as shown below.)
'K' 'A' '' ''→DC Link Volt1 (For example, 120[V] 0 1 2 0 display)
→DCLinkVolt2 (For example, 120[V] 0 1 2 0 display)→'K' 'A' '' ''→DC Link Volt1 …

► Discharge is complete, the power of the Inverter PCB and Fan PCB is being blocked, communication function is blocked, E206 will occur.

► If want operation again after complete discharge mode : Restart after K3 key to Reset or Power Reset.

■ Forced defrost operation

► Forced defrost operation : Is operation when Frost Formation occurs in the outdoor. (When carried out the service)

Method of Entry	K2 Tact Switch 6 times
Start pattern	Heating commissioning pattern
Defrost start	Defrost start : It is after 10 minutes which Safety Start finishes.
Defrost off	General defrost operation conditions are the same as.
Etc.	Defrost shut down and stop the normal pattern of the outdoor unit stop.

■ Forced oil recovery operation

► Forced oil recovery operation : Oil recovery in the outdoor unit for the purpose of moving, installation if necessary.

Method of Entry	K2 Tact Switch 7 times
Start pattern	Outdoor temperature is more than 10℃ : Cooling commissioning Outdoor temperature is less than 10℃ : Heating commissioning
Oil recovery start	Oil recovery start : It is after 10 minutes which Safety Start finishes.
Etc.	Oil recovery shut down and stop the normal pattern of the outdoor unit stop.

4-3 Troubleshooting

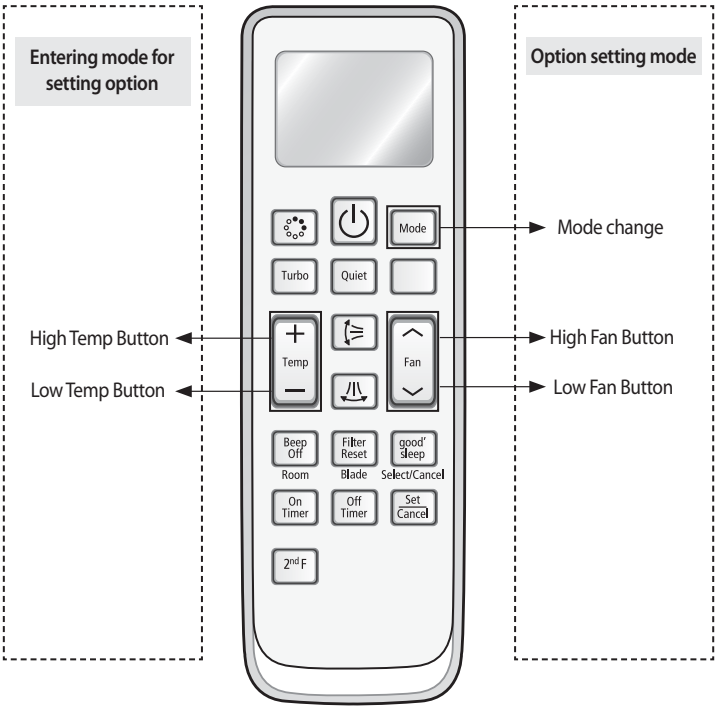
4-3-1 Setting Option Setup Method

4-3-1-1 PCB option code input method

■ Slim 1way, 4way Series

▶ Set the indoor unit address and installation option with remote controller option.
Set the each option separately since you cannot set the ADDRESS setting and indoor unit installation setting option at the same time.You need to set twice when setting indoor unit address and installation option.

■ The procedure of setting option



Step 1 **Entering mode to set option**

1. Remove batteries from the remote controller.
2. Insert batteries and enter the option setting mode while pressing High Temp button and Low Temp button .
3. Check if you have entered the option setting status.

Step 2 **The procedure of option setting**

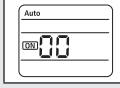
After entering the option setting status, select the option as listed below.

CAUTION

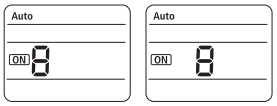
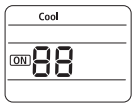
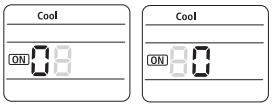
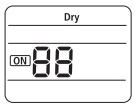
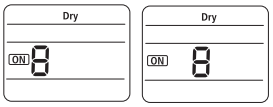
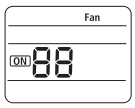
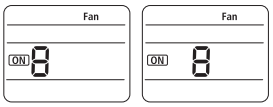
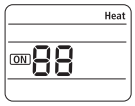
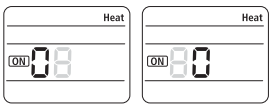
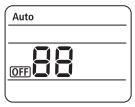
Option setting is available from SEG1 to SEG 24

- SEG1, SEG7, SEG13, SEG19 are not set as page option.
- Set the SEG2~SEG6, SEG8~SEG12 as ON status and SEG14~18, SEG20~24 as OFF status.

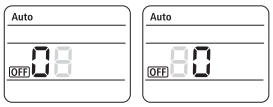
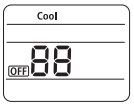
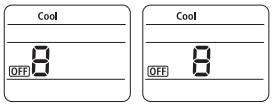
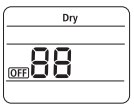
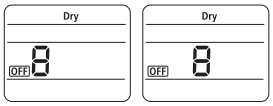
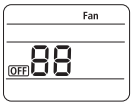
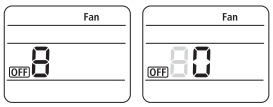
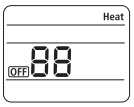
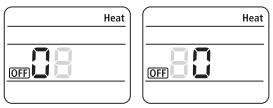
SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
0	X	X	X	X	X	1	X	X	X	X	X
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18	SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
2	X	X	X	X	X	3	X	X	X	X	X

On(SEG1~12)	Off(SEG13~24)
	

■ The procedure of setting option

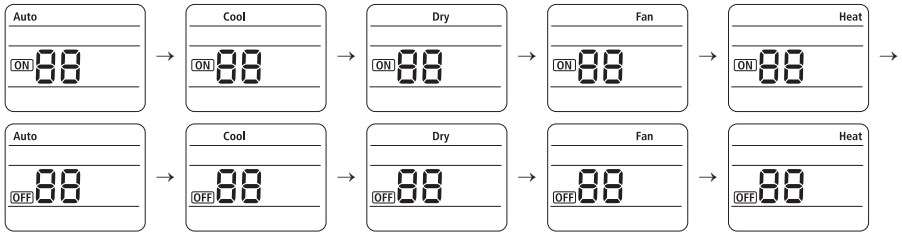
Option setting	Status
1. Setting SEG2, SEG3 option Press Low Fan button(∨) to enter SEG2 value. Press High Fan button(∧) to enter SEG3 value. Each time you press the button, 0→1→…E→F will be selected in rotation.	 SEG2 SEG3
2. Setting Cool mode Mode Press Mode button to be changed to Cool mode in the ON status.	
3. Setting SEG4, SEG5 option Press Low Fan button(∨) to enter SEG4 value. Press High Fan button(∧) to enter SEG5 value. Each time you press the button, 0→1→…E→F will be selected in rotation.	 SEG4 SEG5
4. Setting Dry mode Mode Press Mode button to be changed to DRY mode in the ON status.	
5. Setting SEG6, SEG8 option Press Low Fan button(∨) to enter SEG6 value. Press High Fan button(∧) to enter SEG8 value. Each time you press the button, 0→1→…E→F will be selected in rotation.	 SEG6 SEG8
6. Setting Fan mode Mode Press Mode button to be changed to FAN mode in the ON status.	
7. Setting SEG9, SEG10 option Press Low Fan button(∨) to enter SEG9 value. Press High Fan button(∧) to enter SEG10 value. Each time you press the button, 0→1→…E→F will be selected in rotation.	 SEG9 SEG10
8. Setting Heat mode Mode Press Mode button to be changed to HEAT mode in the ON status.	
9. Setting SEG11, SEG12 option Press Low Fan button(∨) to enter SEG11 value. Press High Fan button(∧) to enter SEG12 value. Each time you press the button, 0→1→…E→F will be selected in rotation.	 SEG11 SEG12
10. Setting Auto mode Mode Press Mode button to be changed to AUTO mode in the OFF status.	

■ The procedure of setting option (cont.)

Option setting	Status
11. Setting SEG14, SEG15 option Press Low Fan button(∨) to enter SEG14 value. Press High Fan button(∧) to enter SEG15 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG14 SEG15
12. Setting Cool mode Mode Press Mode button to be change to Cool mode in the OFF status.	
13. Setting SEG16, SEG17 option Press Low Fan button(∨) to enter SEG16 value. Press High Fan button(∧) to enter SEG17 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG16 SEG17
14. Setting Dry mode Mode Press Mode button to be change to Dry mode in the OFF status.	
15. Setting SEG18, SEG20 option Press Low Fan button(∨) to enter SEG18 value. Press High Fan button(∧) to enter SEG20 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG18 SEG20
16. Setting Fan mode Mode Press Mode button to be change to Fan mode in the OFF status.	
17. Setting SEG21, SEG22 option Press Low Fan button(∨) to enter SEG21 value. Press High Fan button(∧) to enter SEG22 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	 SEG21 SEG22
18. Setting Heat mode Mode Press Mode button to be change to HEAT mode in the OFF status.	
19. Setting SEG23, SEG24 mode Press Low Fan button(∨) to enter SEG23 value. Press High Fan button(∧) to enter SEG24 value. Each time you press the button, 0 → 1 → … E → F will be selected in rotation.	

Step 3 Check the option you have set

After setting option, press Mode button to check whether the option code you input is correct or not.



Step 4 Input option

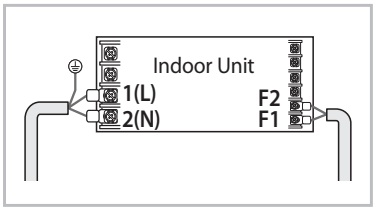
Press operation button with the direction of remote control for set.
For the correct option setting, you must input the option twice.

Step 5 Check operation

1. Reset the indoor unit by pressing the RESET button of indoor unit or outdoor unit.
2. Take the batteries out of the remote controller and insert them again and then press the operation button.

- Setting an indoor unit address and installation option

■ Setting an indoor unit installation option (suitable for the condition of each installation location)



1. Check whether power is supplied or not.
   - When the indoor unit is not plugged in, there should be additional power supply in the indoor unit.
2. The panel(display) should be connected to an indoor unit to receive option.
3. Set the installation option according to the installation condition of an air conditioner.
   - The default setting of an indoor unit installation option is "020010-100000-200000-300000".
   - Individual control of a remote controller(SEG20) is the function that controls an indoor unit individually when there is more than one indoor unit.
4. Set the indoor unit option by wireless remote controller.

SEG1	SEG2	SEG3	SEG4	SEG5	SEG6
0	2	RESERVED	Exterior temperature sensor	Central control	FAN RPM compensation
SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
1	Drain pump	Hot water heater	Electronic heater	Opening the electronic expansion valve	Master / Slave
SEG13	SEG14	SEG15	SEG16	SEG17	SEG18
2	External control	External control output	S-Plasma ion	Buzzer	Number of hours using filter
SEG19	SEG20	SEG21	SEG22	SEG23	SEG24
3	Individual control of a remote controller	Heating setting compensation	EEV opening of an indoor unit stopped during oil return or Defrost operation.	-	Human sensor

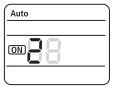
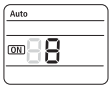
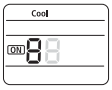
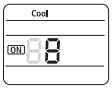
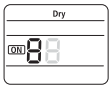
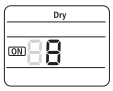
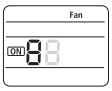
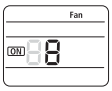
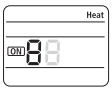
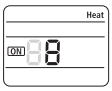
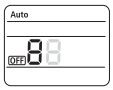
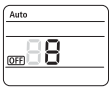
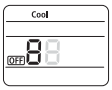
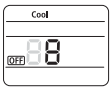
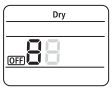
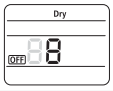
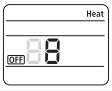
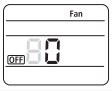
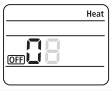
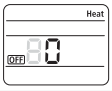
▶ 1WAY/2WAY/4WAY MODEL : Drain pump(SEG8) will be set to 'USE + 3minute delay' even if the drain pump is set to 0.

▶ 1 WAY/2WAY/4WAY,DUCT MODEL : Number of hours using filter(SEG18) will be set to '1000hour' even if the SEG18 is set to exept for 2 or 6.

▶ If you input a number other than 0~4 of the individual control of the indoor unit(SEG20), the indoor is set as "indoor 1".

▶ SEG5 central control option is basically set as 1 (Use), so you don't need to set the central control option additionally. However, if the central control is not connected but it doesn't indicate an error message, you need to set the central control option as 0 (Disuse) to exclude the indoor unit from the central control.

Option No. : 02XXXX-1XXXXX-2XXXXX-3XXXXX

Option	SEG1		SEG2		SEG3		SEG4		SEG5		SEG6	
Explanation	PAGE		MODE		Use of robot cleaning		Use of external temperature sensor		Use of central control		FAN RPM compensation	
Remote Controller Display												
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	0		2		0	Disuse	0	Disuse	0	Disuse	0	Disuse
											1	RPM compensation
					1	Use	1	Use	1	Use	2	High ceiling KIT
Option	SEG7		SEG8		SEG9		SEG10		SEG11		SEG12	
Explanation	PAGE		Use of drain pump		Use of hot water heater		Use of electronic heater		Opening the electronic expansion valve of an indoor unit when heating operation stops.		Master / Slave	
Remote Controller Display												
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	1		0	Disuse	0	Disuse	0	Disuse	0	0	0	slave
			1	Use	1	Use	1	Use	1	80	1	master
			2	Use + 3minute delay								
Option	SEG13		SEG14		SEG15		SEG16		SEG17		SEG18	
Explanation	PAGE		Use of external control		Setting the output of external control		S-Plasma ion		Buzzer control		Number of hours using filter	
Remote Controller Display												
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	2		0	Disuse	0	Thermo on	0	Disuse	0	Mixed operation control1/Use buzzer	2	1000 Hour
			1	ON/OFF Control	1	Operation on	1	Use	1	Mixed operation control1/ Disuse of buzzer	6	2000 Hour
									2	Mixed operation control2/Use buzzer		
			2	OFF Control					3	Mixed operation control2/ Disuse of buzzer		
Option	SEG19		SEG20		SEG21		SEG22		SEG23		SEG24	
Explanation	PAGE		Individual control of a remote controller		Heating setting compensation		EEV opening of an indoor unit stopped during oil return or defrost operation.		-		Human sensor	
Remote Controller Display												
Indication and Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details	Indication	Details
	3		0 or 1	channel 1	0	Disuse	0	150 step			8	Disuse
			2	channel 2	1	2°C	1	0 step			9	Use
			3	channel 3	2	5°C						
			4	channel 4								

4-3-2 Option Items

TYPE		SAMSUNG MODEL NUMBER	Option	Intall Code	Cycel code	Intall Code 2
Slim 1WAY	JSF-1	AM007FN1DCH/AA	017044-1180C8-201616-330010	020010-100000-200000-300000	030000-100000-200000-300000	050000-100000-200000-300000
		AM009FN1DCH/AA	017044-1180F8-201C1C-330010			
		AM012FN1DCH/AA	017044-11545D-202323-330010			
Mini 4WAY	Small	AM009FNDNCH/AA	01504F-19540A-201C1C-330000			
		AM012FNDNCH/AA	01504F-19342C-202323-330000			
		AM018FNDNCH/AA	01504F-19547F-203434-330000			
		AM020FNDNCH/AA	01504F-195591-203C3C-330000			
4WAY	Small	AM009FN4DCH/AA	014047-195064-201A1A-330000			
		AM018FN4DCH/AA	014047-195097-203434-330000			
		AM024FN4DCH/AA	014047-1950C7-204848-330000			
	Large	AM030FN4DCH/AA	014047-195409-205A5A-330020			
		AM036FN4DCH/AA	014047-19541B-206E6E-330020			
		AM048FN4DCH/AA	014047-19544F-209191-330020			
SLIM DUCT	Slim1	AM007FNLDCH/AA	010054-1254AE-201616-331110			
			010054-1255D1-201616-331110			
			010054-1255D1-201616-331110			
			010054-125904-201616-331110			
		AM009FNLDCH/AA	010054-121913-201C1C-331110			
			010054-121946-201C1C-331110			
			010054-121946-201C1C-331110			
			010054-121979-201C1C-331110			
		AM012FNLDCH/AA	010054-121946-202323-331110			
			010054-121979-202323-331110			
			010054-121979-202323-331110			
			010054-1219AC-202323-331110			
	Slim2	AM018FNLDCH/AA	010054-1259BA-203434-331110			
			010054-1259ED-203434-331110			
			010054-1259ED-203434-331110			
			010054-125E10-203434-331110			
		AM024FNLDCH/AA	010054-125D2D-204848-331110			
			010054-125E50-204848-331110			
			010054-125E50-204848-331110			
			010054-125E83-204848-331110			
	Slim3	AM030FNLDCH/AA	010054-1B5915-205A5A-331110			
			010054-1B5948-205A5A-331110			
			010054-1B599F-205A5A-331110			
			010054-1B5AE4-205A5A-331110			
		AM036FNLDCH/AA	010054-1B5956-206E6E-331110			
			010054-1B5989-206E6E-331110			
			010054-1B5AD0-206E6E-331110			
			010054-1B5E25-206E6E-331110			
		AM048FNLDCH/AA	010054-1B59B9-209191-331110			
			010054-1B59EC-209191-331110			
			010054-1B5E33-209191-331110			
			010054-1B5E88-209191-331110			

Option Items(cont.)

TYPE		SAMSUNG MODEL NUMBER	Option	Intall Code	Cycel code	Intall Code 2
MSP DUCT	MSP-S	AM018FNMDCH/AA	010054-125904-204747-331110	020010-100000-200000-300000	030000-100000-200000-300000	050000-100000-200000-300000
			010054-125593-203434-331110			
			010054-1255C5-203434-331110			
			010054-1255F5-203434-331110			
			010054-125957-203434-331110			
		AM024FNMDCH/AA	010054-125904-204848-331110			
			010054-125936-204848-331110			
			010054-125979-204848-331110			
			010054-125DF9-204848-331110			
			010054-125DFC-204848-331110			
	MSP-1	AM030FNMDCH/AA	010054-1259CE-205A5A-331110			
			010054-125E02-205A5A-331110			
			010054-125E46-205A5A-331110			
		AM036FNMDCH/AA	010054-125E00-206E6E-331110			
			010054-125E44-206E6E-331110			
			010054-125E88-206E6E-331110			
	MSP-2	AM048FNMDCH/AA	010054-125E20-209191-331110			
			010054-125E43-209191-331110			
			010054-125E86-209191-331110			
NEO FORTE	Small	AM007FNTDCH/AA	010044-1170FA-201616-330000			
		AM009FNTDCH/AA	010044-1170FA-201C1C-330000			
		AM012FNTDCH/AA	010044-11744D-202323-330000			
	Large	AM018FNTDCH/AA	010044-11645E-203434-330020			
		AM020FNTDCH/AA	010044-11646F-203C3C-330020			
		AM024FNTDCH/AA	010044-11648F-204848-330020			
BIG DUCT		AM076FNHDCH/AA	011054-195097-20DCDC-331110			
			011054-1950C7-20DCDC-331110			
			011054-1950E8-20DCDC-331110			
			011054-19544D-20DCDC-331110			
			011054-19549F-20DCDC-331110			
		AM096FNHDCH/AA	011054-195407-231C1C-331110			
			011054-195429-231C1C-331110			
			010054-19545B-231C1C-331110			
			011054-19549E-231C1C-331110			
			011054-1955D1-231C1C-331110			
			011054-1955F3-231C1C-331110			
Ceiling		AM018FNCDCH/AA	013054-105000-203434-330010			
		AM024FNCDCH/AA	013054-105000-204848-330010			

✳ If you are going to use up to SEG 24, please refer to following instruction.
SEG 17 : 0 ➔ 1: Using high ceiling kit for 4way

SEG 18 :

	Not in use	Use
Change temperature display	0(Celsius)	1(Fahrenheit)
Sound Mute	0	2
Mixed operation control	0	4

• If you want to use multiple functions, add each of the 'use' value of the function you want to used and input the final addition as option value. (Use Fahrenheit + Sound mute + Mixed operation control : 1 + 2 + 4 = 7)

Ex) 044217-1d00e6-200000-300000
When using Sound mute : 044217-1d00e6-200002-300000
When using high ceiling kit for 4way and mixed operation error preventing function : 044217-1d00e6-200014-300000

4-3-3 What to check before diagnosis

4-3-3-1 Lamp combination expression method display (cassette type indoor unit)

- Slim 1-Way, 2 -Way, Mini 4-Way cassette type

■ Error detection and restart

- When error occurs during operation, indicate a problem with LED flashes, and no other operations but LED stops.
- When restarting operation with remote controller or switch, it will determine the appropriate error mode after normal operation

■ LED lamp display with error detection

Abnormal condition	Error code	LED Display				
		⏻		⏲	✣	▦
		Green	Red			
Error on indoor temperature sensor (Short or Open)	E121	×	×	◑	×	×
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open) 3. Discharge sensor error (Short or Open)	E122 E123 E126	◑	×	◑	×	×
Indoor fan error	E154	×	×	×		×
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251	◑	×	×	◑	×
1. When there is no communication between the indoor·outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address 6. Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	×	×	◑	◑	×
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	 E151 E152 E128 E129 E198	×	×	◑	◑	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.
  Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

■ LED lamp display with error detection (cont.)

Abnormal condition	Error code	LED Display				
		Green	Red			
1. COND mid sensor is detached 2. Refrigerant leakage (2nd detection) 3. Abnomally high temperature on Cond (2nd detection) 4. Low pressure s/w (2nd detection) 5. Abnomally high temperature on discharged air on outdoor unit (2nd detection) 6. Indoor operation stop due to unconfirmed error on outdoor unit 7. Error due to reverse phase detection 8. Comp stop due to freeze detection (6th detection) 9. High pressure sensor is detached 10. Low pressure sensor is detached 11. Outdoor unit copression ration error 12. Outdoor sump down_1 prevetion control 13. Compressor down due to low pressure sensor prevention control_1 14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection) 15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection) Other outdoor unit self-diagnosis error that is not on the above list	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181	×	×	◑	◑	◑
Flowating s/w (2nd detection)	E153	×	×	×	◑	◑
EEPROM error	E162	◑	◑	◑	◑	◑
EEPROM option error	E163	◑	◑	◑	◑	◑
Error due to incompatible indoor unit	E164	×	×	×	×	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.
  Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

- Global 4way cassette type

■ Error detection and restart

- When error occurs during operation, indicate a problem with LED flashes, and no other operations but LED stops.
- When restarting operation with remote controller or switch, it will determine the appropriate error mode after normal operation

■ LED lamp display with error detection

Abnormal condition	Error code	LED Display			
		Operation	Defrost	Timer	Filter
Error on indoor temperature sensor (Short or Open)	E121	×	◑	×	×
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open) 3. Discharge sensor error (Short or Open)	E122 E123 E126	◑	◑	×	×
Indoor fan error	E154	×	×	◑	×
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251	◑	×	◑	×
1. When there is no communication between the indoor-outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address 6. Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	×	◑	◑	×
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	E151 E152 E128 E129 E198	×	◑	◑	◑
1. COND mid sensor is detached. 2. Refrigerant leakage (2nd detection). 3. Abnomally high temperature on Cond. (2nd detection) 4. Low pressure s/w. (2nd detection) 5. Abnomally high temperature on discharged air on outdoor unit. (2nd detection) 6. Indoor operation stop due to unconfirmed error on outdoor unit. 7. Error due to reverse phase detection. 8. Comp stop due to freeze detection. (6th detection) 9. High pressure sensor is detached. 10. Low pressure sensor is detached. 11. Outdoor unit copression ration error 12. Outdoor sump down_1 prevetion control 13. Compressor down due to low pressure sensor prevention control_1 14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection) 15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection) Other outdoor unit self-diagnosis error that is not on the above list	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181	×	◑	◑	◑
Flowating s/w (2nd detection)	E153	×	×	◑	◑
EEPROM error	E162	◑	◑	◑	◑

■ LED lamp display with error detection (cont.)

Abnormal condition	Error code	LED Display			
		Operation	Defrost	Timer	Filter
EEPROM option error	E163	◑	◑	◑	◑
Error due to incompatible indoor unit	E164	◑	◑	×	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.
 Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

- Duct type

■ Error detection and restart

- ● When error occurs during operation, indicate a problem with LED flashes, and no other operations but LED stops.
- ● When restarting operation with remote controller or switch, it will determine the appropriate error mode after normal operation

■ LED lamp display with error detection(Remote Control Receiver)

Abnormal condition	Error code	LED Display				
		⏻		⏲		
Error on indoor temperature sensor (Short or Open)	E121	×	×	◑	×	×
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open) 3. Discharge sensor error (Short or Open)	E122 E123 E126	◑	×	◑	×	×
Indoor fan error	E154	×	×	×	◑	×
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor Other outdoor unit sensor error that is not on the above list	E221 E237 E251	◑	×	×	◑	×
1. When there is no communication between the indoor·outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address 6. Communication address not confirmed Other outdoor unit communication error that is not on the above list	E101 E102 E202 E201 E108 E109	×	×	◑	◑	×
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	E151 E152 E128 E129 E198	×	×	◑	◑	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

■ LED lamp display with error detection(Remote Control Receiver) (cont.)

Abnormal condition	Error code	LED Display				
		⏻		⏲		
1. COND mid sensor is detached 2. Refrigerant leakage (2nd detection) 3. Abnomally high temperature on Cond (2nd detection) 4. Low pressure s/w (2nd detection) 5. Abnomally high temperature on discharged air on outdoor unit (2nd detection) 6. Indoor operation stop due to unconfirmed error on outdoor unit 7. Error due to reverse phase detection 8. Comp stop due to freeze detection (6th detection) 9. High pressure sensor is detached 10. Low pressure sensor is detached 11. Outdoor unit copression ration error 12. Outdoor sump down_1 prevetion control 13. Compressor down due to low pressure sensor prevention control_1 14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection) 15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection) Other outdoor unit self-diagnosis error that is not on the above list	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181	×	×	◑	◑	◑
Flowating s/w (2nd detection)	E153	×	×	×	◑	◑
EEPROM error	E162	◑	◑	◑	◑	◑
EEPROM option error	E163	◑	◑	◑	◑	◑
Error due to incompatible indoor unit	E164	×	×	×	×	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- When E108 error occurs, change the address and reset the system.Ex.) When address of the indoor unit #1 and #2 are set as 5, address of the indoor unit #1 will become 5 and indoor unit #2 will display E108, A002.

- Ceiling type

■ Error detection and reoperation

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

■ Indoor unit LED lamp display at error detecting

Abnormal condition	Error code	LED Display				
Error on indoor temperature sensor (Short or Open)	E121	×	×	◑	×	×
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open)	E122 E123	◑	×	◑	×	×
Indoor fan error	E154	×	×	×	◑	×
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor	E221 E237 E251	◑	×	×	◑	×
1. When there is no communication between the indoor-outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address	E101 E102 E202 E201 E108	×	×	◑	◑	×
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	 E151 E152 E128 E128 E198	×	×	◑	◑	◑
1. COND mid sensor is detached 2. Refrigerant leakage (2nd detection) 3. Abnomally high temperature on Cond (2nd detection) 4. Low pressure s/w. (2nd detection) 5. Abnomally high temperature on discharged air on outdoor unit. (2nd detection) 6. Indoor operation stop due to unconfirmed error on outdoor unit 7. Error due to reverse phase detection 8. Comp stop due to freeze detection (6th detection) 9. High pressure sensor is detached 10. Low pressure sensor is detached 11. Outdoor unit copression ration error 12. Outdoor sump down_1 prevetion control 13. Compressor down due to low pressure sensor prevention control_1 14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection) 15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection)	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181	×	×	◑	◑	◑
Flowating s/w (2nd detection)	E153	×	×	×	◑	◑
EEPREEPROM option error	E162	◑	◑	◑	◑	◑
EEPROM option error	E163	◑	◑	◑	◑	◑
Error due to incompatible indoor unit	E164	×	×	×	×	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

- Wall-mounted type (Neo Forte without EEV)

■ Error detection and reoperation

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

■ Indoor unit LED lamp display at error detecting

Abnormal condition	Error code	LED Display		
		⏻	⏲	TURBO
Error on indoor temperature sensor (Short or Open)	E121	×	◑	×
1. Error on Eva-in sensor (Short or Open) 2. Error on Eva-out sensor (Short or Open)	E122 E123	◑	◑	×
Indoor fan error	E154	×	×	◑
1. Error on outdoor temperature sensor (Short or Open) 2. Error on cond sensor 3. Error on discharge sensor	E221 E237 E251	◑	×	◑
1. When there is no communication between the indoor-outdoor units for 2 minutes 2. Communication error received from the outdoor unit 3. 3 miniute tracking error on outdoor unit 4. Communication error after tracking due to unmatching number of installed units 5. Error due to repeated communication address	E101 E102 E202 E201 E108	×	◑	◑
Self diagnosis error display 1. Error due to opened EEV (2nd detection) 2. Error due to closed EEV (2nd detection) 3. Eva in sensor is detached 4. Eva out sensor is detached 5. Thermal fuse error (Open)	 E151 E152 E128 E128 E198	●	◑	◑
1. COND mid sensor is detached 2. Refrigerant leakage (2nd detection) 3. Abnomally high temperature on Cond (2nd detection) 4. Low pressure s/w (2nd detection) 5. Abnomally high temperature on discharged air on outdoor unit (2nd detection) 6. Indoor operation stop due to unconfirmed error on outdoor unit 7. Error due to reverse phase detection 8. Comp stop due to freeze detection (6th detection) 9. High pressure sensor is detached 10. Low pressure sensor is detached 11. Outdoor unit copression ration error 12. Outdoor sump down_1 prevetion control 13. Compressor down due to low pressure sensor prevention control_1 14. Simultaneous opening of cooling/heating MCU SOL valve (1st detection) 15. Simultaneous opening of cooling/heating MCU SOL valve (2nd detection)	E241 E554 E450 E451 E416 E559 E425 E403 E301 E306 E428 E413 E410 E180 E181	●	◑	◑
EEPROM error	E162	◑	◑	◑
EEPROM option error	E163	◑	◑	◑
Error due to incompatible indoor unit	E164	◑	●	◑

● : On ◑ : Flickering × : Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

4-3-4 Number Display Method (Outdoor Unit, MCU, Cable remote control, wall-mount, etc.)

■ How to Display Integrated Error Code

► Meanings of First Alphabetical Character / Number of Error Code

Displayed alphabet	Explanation	
E	When displaying Error 101~700	
P	When displaying Error 701~800	
C	When E206 occurs	Displays address of subordinate within the set C001 : HUB, C002: FAN, C003: INV1, C004: INV2
	When MCU error occurs	Displays address of MCU Ex) C100: MCU address 0, C101: MCU address 1, C102: MCU address 2
U	When displaying outdoor unit address Ex) U200: Outdoor unit 1, U201: Outdoor unit 2, U202: Outdoor unit 3, U203: Indoor unit 4	
A	When displaying indoor unit address Ex) A000: Indoor unit adress 0, A001: Indoor unit address 1, A002: Indoor unit address 2	

► Order of Error Display

Classification	Error display method	Display Example
Display method for error that occurred in indoor unit	Error Number → Indoor unit address → Error Number, repeat display	E471 → A002 → E471 → A002
Display method for error that occurred in outdoor unit and other methods of error display	Error Number → Outdoor unit address → Error Number, repeat display	E471 → U200 → E471 → U200 E206 → C001 → E206 → C002

■ Diagnosis and Adjustment (Error Code)

► Error code related indoor unit

CODE	Explanation
E-101	Indoor unit communication error. Indoor unit can not receive any data from outdoor unit.
E-102	Communication error between indoor unit and outdoor unit. Displayed in indoor unit.
E-108	Error due to repeated address setting (When 2 or more devices has same address within the network)
E-121	Error on indoor temperature sensor of indoor unit (Short or Open)
E-122	Error on EVA IN sensor of indoor unit (Short or Open)
E-123	Error on EVA OUT sensor of indoor unit (Short or Open)
E-128	EVA IN temperature sensor of indoor unit is detached from EVA IN pipe
E-129	EVA OUT temperature sensor of indoor unit is detached from EVA OUT pipe
E-130	Heat exchanger in/out sensors of indoor unit are detached
E-135	RPM feedback error of indoor unit's cleaning fan
E-151	Error due to opened EEV of indoor unit (2nd detection)
E-152	Error due to closed EEV of indoor unit (2nd detection)
E-153	Error on floating switch of indoor unit (2nd detection)
E-154	RPM feedback error of indoor unit
E-161	Mixed operation mode error of indoor unit; When outdoor unit is getting ready to operate in cooling (or heating) and some of the indoor unit is trying to operate in heating (or cooling) mode
E-162	EEPROM error of MICOM (Physical problem of parts/circuit)
E-163	Indoor unit's remote controller option input is Incorrect or missing. Outdo or unit EEPROM data error
E-180	Simultaneous opening of cooling/heating MCU SOL V/V (1st detection)
E-181	Simultaneous opening of cooling/heating MCU SOL V/V (2nd detection)
E-185	Cross wiring error between communication and power cable of indoor unit
E-186	Connection error or problem on SPi
E-190	No temperature changes in EVA IN during pipe inspection or changes in temperature is seen in indoor unit with wrong address
E-191	No temperature changes in EVA OUT during pipe inspection or changes in temperature is seen in indoor unit with wrong address
E-198	Error due to disconnected thermal fuse of indoor unit

■ Diagnosis and Adjustment (Error Code)

► Error code related to the Communications / Settings / HW (cont.)

CODE	Explanation
E-201	Communication error between indoor and outdoor units (installation number setting error, repeated indoor unit address, indoor unit communication cable error)
E-202	Communication error between indoor and outdoor units (Communication error on all indoor unit, outdoor unit communication cable error)
E-203	Communication error between main and sub outdoor units
E-205	Communication error on all PBA within the outdoor unit C-Box, communication cable error
E-206	E206-C001: HUB PBA communication error / E206-C002: FAN PBA communication errorE206-C003: INV1 PBA communication error / E206-C004: INV2 PBA communication error
E-211	When single indoor unit uses 2 MCU ports that are not in series.
E-212	If the rotary switch (on the MCU) for address setting of the indoor unit has 3 or more of the same address
E-213	When total number of indoor units assigned to MCU is same as actual number of installed indoor units but there is indoor unit that is not installed even though it is assigned on MCU
E-214	When number of MCU is not set correctly on the outdoor unit or when two or more MCU was installed some of them have the same address
E-215	When two different MCU's have same address value on the rotary switch
E-216	When indoor unit is not installed to a MCU port but the switch on the port is set to On.
E-217	hen indoor unit is connected to a MCU port but indoor unit is assigned to a MCU and the switch on the port is set to Off
E-218	When there's at least one or more actual number of indoor unit connection compared to number of indoor units assigned to MCU
E-219	Error on temperature sensor located on MCU intercooler inlet (Short or Open)
E-220	Error on temperature sensor located on MCU intercooler outlet (Short or Open)
E-221	Error on outdoor temperature sensor of outdoor unit (Short or open)
E-231	Error on COND OUT temperature sensor of main outdoor unit (Short or Open)
E-241	COND OUT sensor is detached
E-251	Error on discharge temperature sensor of compressor 1 (Short or Open)
E-257	Error on discharge temperature sensor of compressor 2 (Short or Open)
E-262	Discharge temperature sensor of compressor 1 is detached from the sensor holder on the pipe
E-263	Discharge temperature sensor of compressor 2 is detached from the sensor holder on the pipe
E-266	Top sensor of compressor 1 is detached
E-267	Top sensor of compressor 2 is detached
E-269	Suction temperature sensor is detached from the sensor holder on the pipe
E-276	Error on top sensor of compressor 1 (Short or Open)
E-277	Error on top sensor of compressor 2 (Short or Open)
E-291	Refrigerant leakage or error on high pressure sensor (Short or Open)
E-296	Refrigerant leakage or error on low pressure sensor (Short or Open)
E-308	Error on suction temperature sensor (Short or Open)

■ Diagnosis and Adjustment (Error Code)

► Error code related to the Communications / Settings / HW (cont.)

CODE	Explanation
E-311	Error on temperature sensor of double layer pipe/liquid pipe(sub heat exchanger) (Short or Open)
E-321	Error on EVI (ESC) IN temperature sensor (Short or Open)
E-322	Error on EVI (ESC) OUT temperature sensor (Short or Open)
E-323	Error on suction sensor 2 (Short or Open)
E-346	Error due to operation failure of Fan2
E-347	Motor wire of Fan2 is not connected
E-348	Lock error on Fan2 of outdoor unit
E-353	Error due to overheated motor of outdoor unit's Fan2
E-355	Error due to overheated IPM of Fan2
E-361	Error due to operation failure of inverter compressor 2
E-364	Error due to over-current of inverter compressor 2
E-365	V-limit error of inverter compressor 2
E-366	Error due to over voltage /low voltage of inverter PBA2
E-367	Error due to unconnected wire of compressor 2
E-368	Output current sensor error of inverter PBA2
E-369	DC voltage sensor error of inverter PBA2
E-374	Heat sink temperature sensor error of inverter PBA2
E-378	Error due to overcurrent of Fan2
E-385	Error due to input current of inverter 2
E-386	Over-voltage/low-voltage error of Fan2
E-387	Hall IC connection error of Fan2
E-389	V-limit error on Fan2 of compressor
E-393	Output current sensor error of Fan2
E-396	DC voltage sensor error of Fan2
E-399	Heat sink temperature sensor error of Fan2
E-400	Error due to overheat caused by contact failure on IPM of Inverter PBA2
E-407	Compressor operation stop due to high pressure protection control
E-410	Compressor operation stop due to low pressure protection control or refrigerant leakage
E-416	Compressor operation stop due to discharge temperature protection control
E-425	Phase reversal or phase failure (3Ø outdoor unit wiring, R-S-T-N), connection error on 3 phase input
E-428	Compressor operation stop due abnormal compression ratio
E-438	EVI (ESC) EEV leakage or internal leakage of intercooler or incorrect connector insertion of EVI (ESC) EEV
E-439	Error due to refrigerant leakage
E-440	Heating mode restriction due to high air temperature
E-441	Cooling mode restriction due to low air temperature
E-442	Refrigerant charing restriction in heating mode when air temperature is over 15 °C
E-443	Operation prohibited due to low pressure
E-445	CCH is deatched
E-446	Error due to operation failure of Fan1

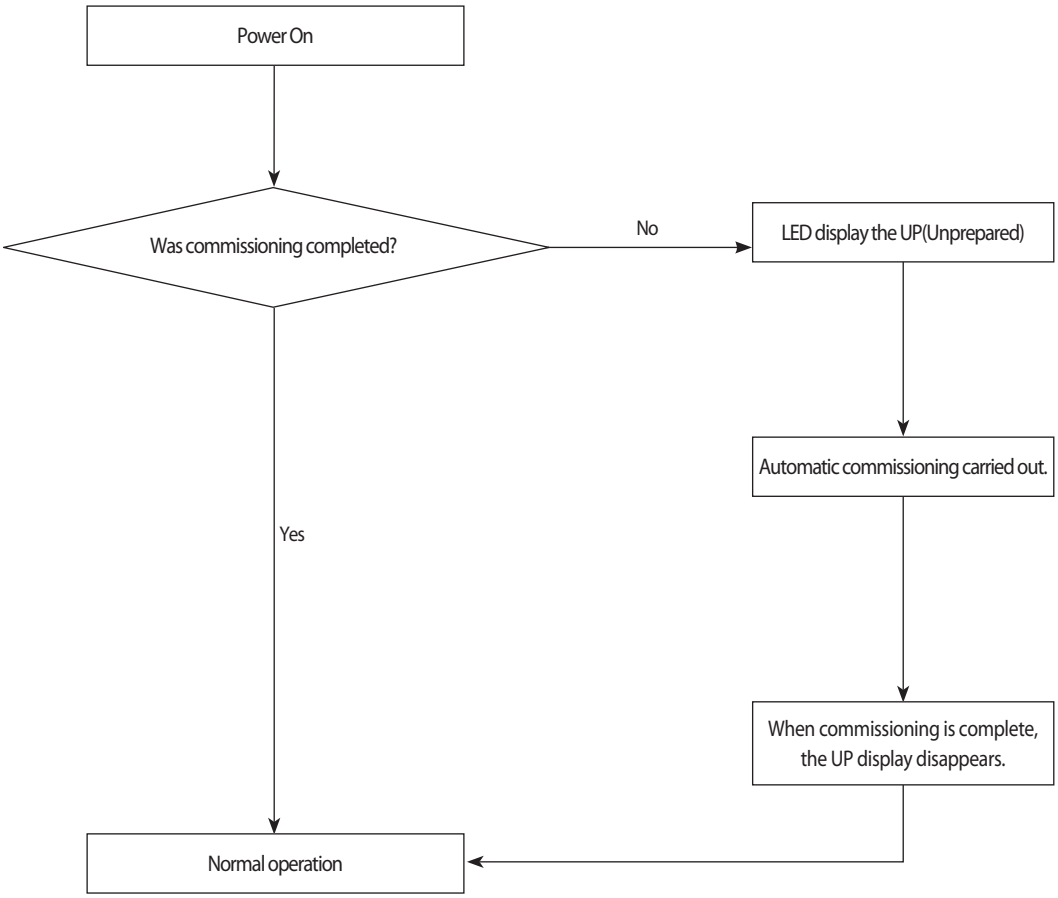
■ Diagnosis and Adjustment (Error Code)

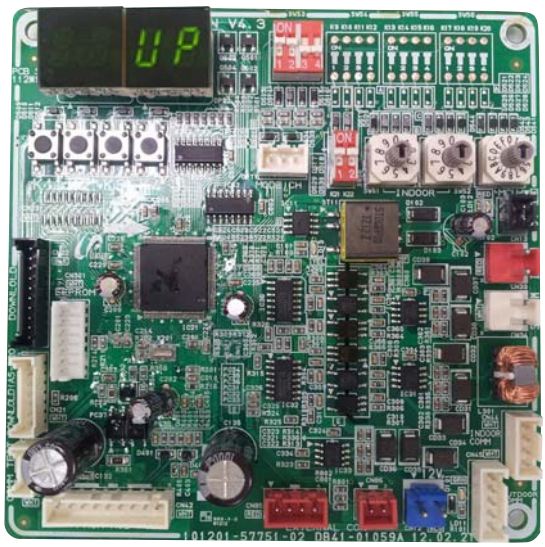
► Error code related to the Communications / Settings / HW (cont.)

CODE	Explanation
E-447	Motor wire of Fan1 is not connected
E-448	Lock error on Fan1
E-452	Error due to ZPC detection circuit problem or power failure
E-453	Error due to overheated motor of outdoor unit's Fan1
E-455	Error due to overheated IPM of Fan1
E-461	Error due to operation failure of inverter compressor 1
E-462	Compressor stop due to full current control or error due to low current on CT2
E-464	Error due to over-current of inverter compressor 1
E-465	V-limit error of inverter compressor 1
E-466	Error due to over voltage /low voltage of inveter PBA1
E-467	Error due to unconnected wire of compressor 1
E-468	Output current sensor error of inverter PBA1
E-469	DC voltage sensor error of inver PBA1
E-474	Heat sink temperature sensor error of inverter PBA1
E-478	Error due to overcurrent of Fan1
E-485	Error due to input current of inverter 1
E-486	Error due to over voltage/low voltage of Fan
E-487	Hall IC error of Fan1
E-489	V-limit error on Fan1 of compressor
E-493	Output current sensor error of Fan1
E-496	DC voltage sensor error of Fan1
E-499	Heat sink temperature sensor error of Fan1
E-500	Error due to overheat caused by contact failure on IPM of Inverter PBA1
E-503	Error due to alert the user to check if the service valve is closed
E-504	Error due to self diagnosis of compressor operation
E-505	Error due to self diagnosis of high pressure sensor
E-506	Error due to self diagnosis of low pressure sensor
E-560	Outdoor unit's option switch setting error (when iinappropriate option switch is on)
E-563	Error due to module installation of indoor unit with old version (Micom version needs to be checked)
E-573	Error due to using single type outdoor unit in a module installation
E-702	Error due to closed EEV of indoor unit (1st detection)
E-703	Error due to opened EEV of indoor unit (1st detection)
UP	Trial operation incompleted (UnPrepared) - It will be cleared when trial operation was executed for 1 hour or when automatic inspection is completed

4-4 Appropriate Measures for Different Symptom

4-4-1 Outdoor Unit Operation Flow





Commissioning if it is not running - UP is displayed

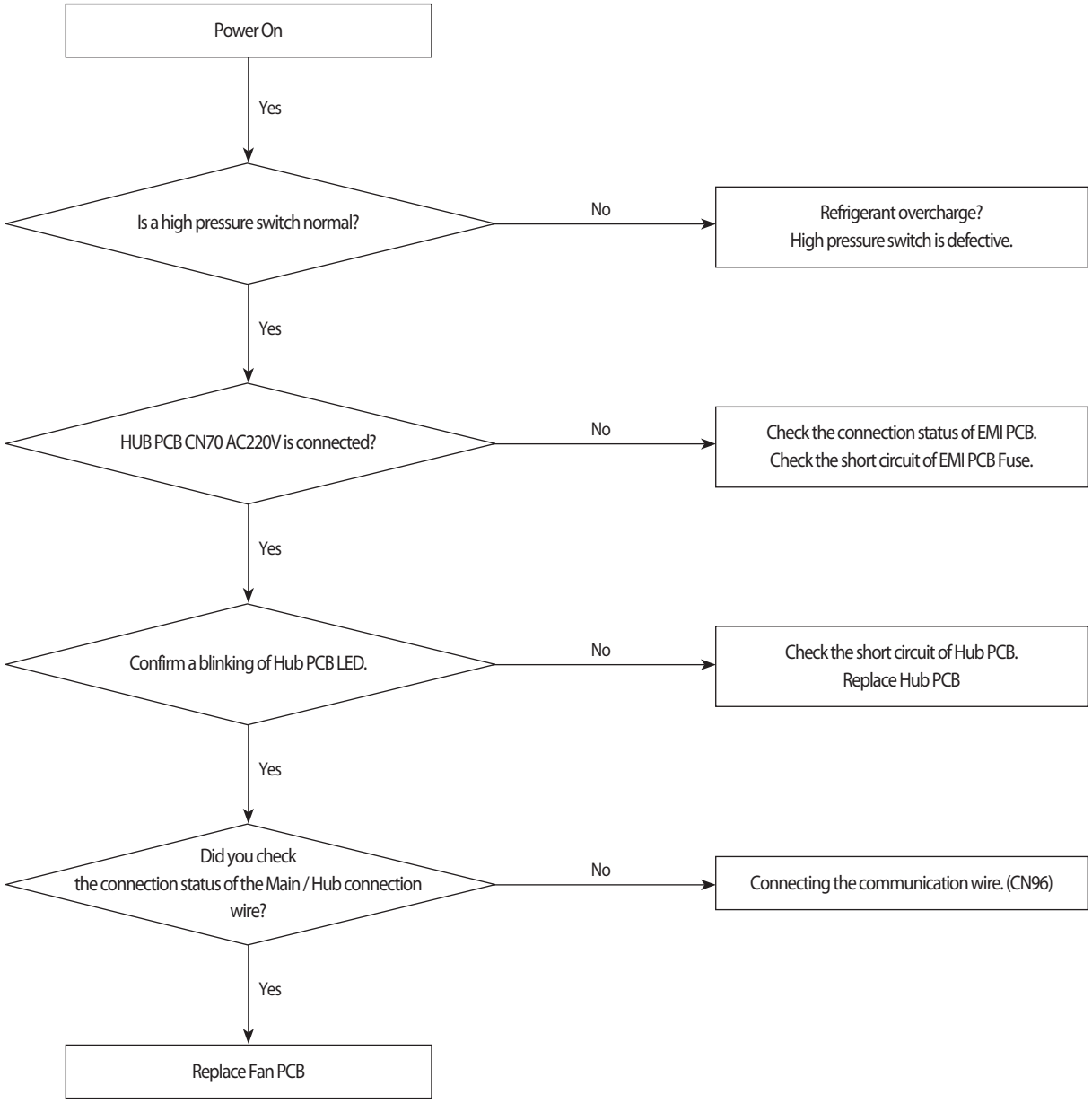
Prior to starting the air conditioning operation after the initial installation and automatic commissioning is carried out. This process, the stable operation to protect the system and verify the defect of the product.

1. Tracking is complete and after the initial installation, if you do not have a history of commissioning is completed, UP will be displayed.
2. Execute the automatic commissioning by Tact Switch.
3. UP display disappears after commissioning is complete, normal operation is possible.
4. Automatic commissioning is completed, if there is a history, normal operation execution immediately.

4-4-2 Main PCB has no power phenomenon

Outdoor unit display	Main PCB has no power phenomenon (7-seg does not blink)
Judgment Method	Hub PCB power and connection wire to detect.
Cause of problem	· HUB PCB connector wire defects and the connection is not. · Main PCB defective. · Hub PCB defective. · High pressure switch operation

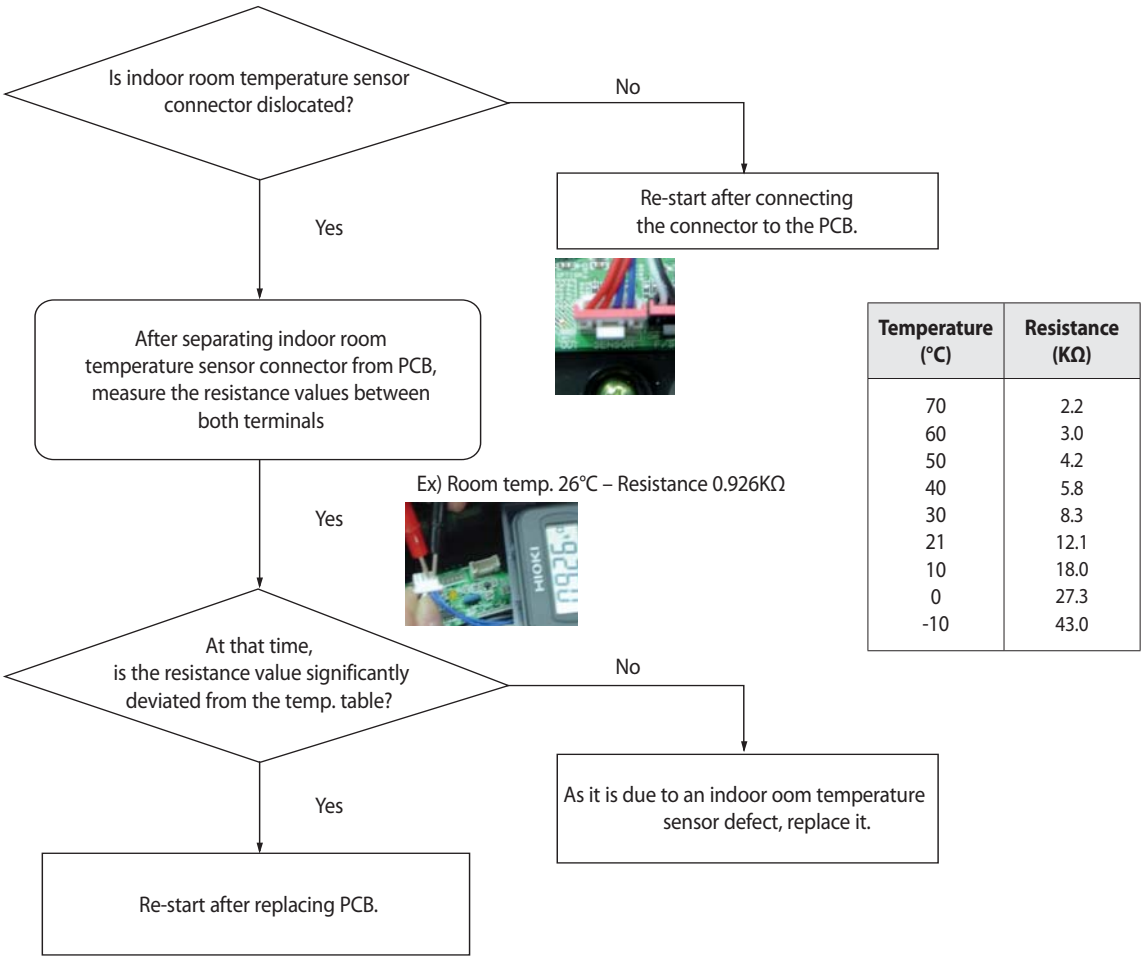
1. Cause of problem



4-4-3 Indoor Unit ROOM sensor Error (Open/Short)

Outdoor unit display	E 12 1 ↔ A x x x (x x x : The address of the error occurred indoor unit)
Indoor unit display	×(Operation) ◑ (Timer) ×(Fan) ×(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• The room temperature sensor of No. XXX indoor unit has defective OPEN/SHORT

1. How to check

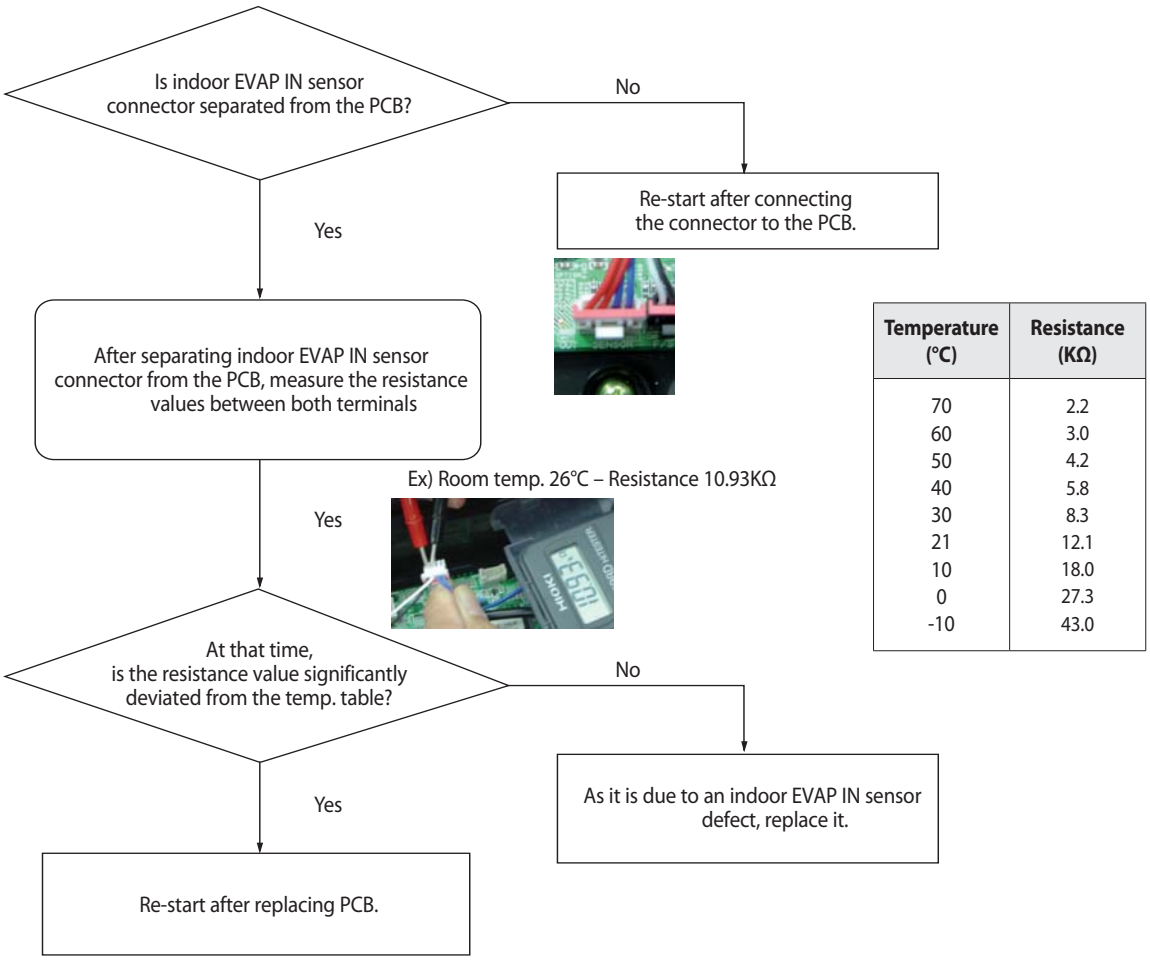

Is indoor room temperature sensor connector dislocated?
No
Re-start after connecting the connector to the PCB.
Yes
After separating indoor room temperature sensor connector from PCB, measure the resistance values between both terminals
Ex) Room temp. 26°C – Resistance 0.926KΩ
Yes
At that time, is the resistance value significantly deviated from the temp. table?
No
As it is due to an indoor oom temperature sensor defect, replace it.
Yes
Re-start after replacing PCB.

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
21	12.1
10	18.0
0	27.3
-10	43.0

4-4-4 Indoor unit EVAP IN sensor Error (Open/Short)

Outdoor unit display	E 122 ↔ A xxx (x x x : The address of the error occurred indoor unit)
Indoor unit display	◑ (Operation) ◑ (Timer) ×(Fan) ×(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• The EVAP IN sensor of No. XXX indoor unit has defective OPEN/SHORT

1. How to check

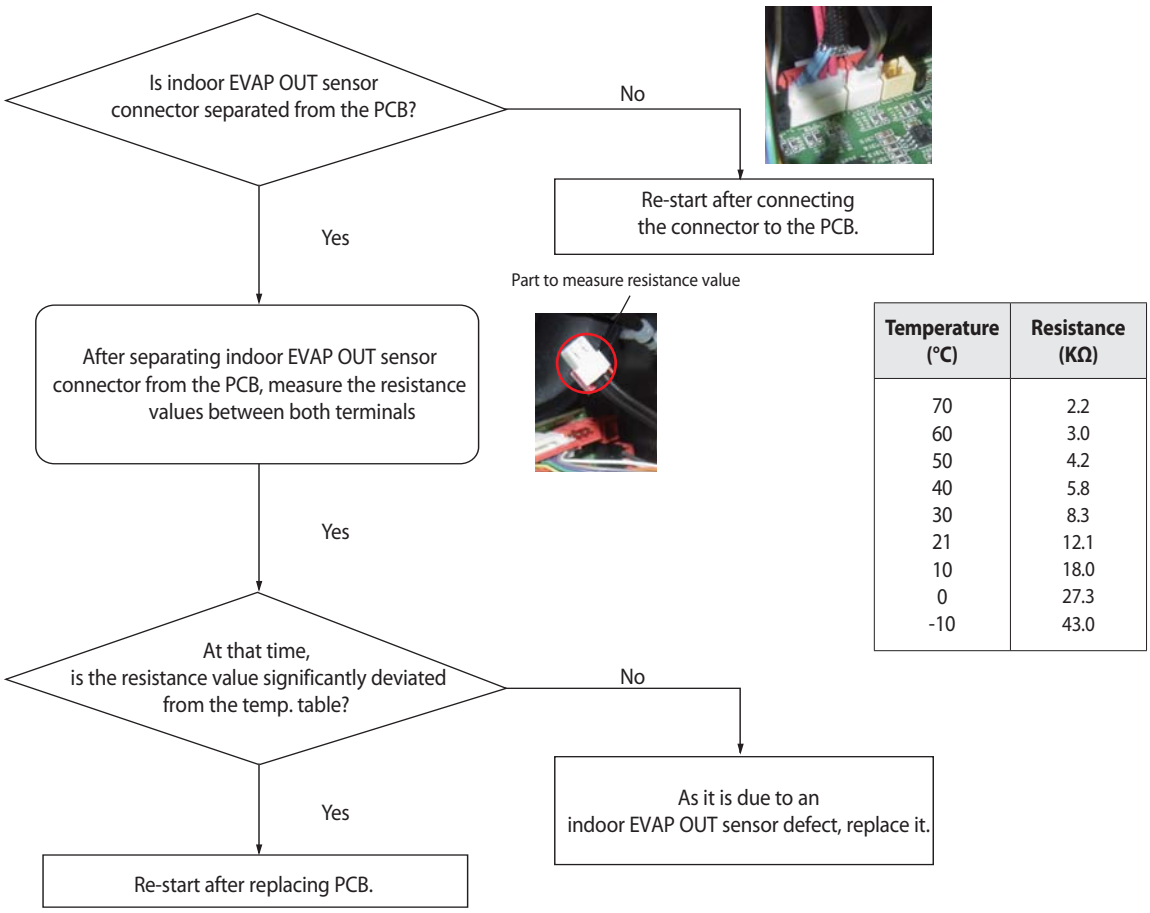

Is indoor EVAP IN sensor connector separated from the PCB?
No
Re-start after connecting the connector to the PCB.
Yes
After separating indoor EVAP IN sensor connector from the PCB, measure the resistance values between both terminals
Ex) Room temp. 26℃ – Resistance 10.93KΩ
Yes
At that time, is the resistance value significantly deviated from the temp. table?
No
As it is due to an indoor EVAP IN sensor defect, replace it.
Yes
Re-start after replacing PCB.

Temperature (℃)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
21	12.1
10	18.0
0	27.3
-10	43.0

4-4-5 Indoor EVAP OUT sensor Error (Open/Short)

Outdoor unit display	E 123 ↔ A xxx (x x x : The address of the error occurred indoor unit)
Indoor unit display	◑(Operation) ◑(Timer) ×(Fan) ×(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• The EVAP out sensor of No. XXX indoor unit has defective OPEN/SHORT

1. How to check


Is indoor EVAP OUT sensor connector separated from the PCB?
No
Re-start after connecting the connector to the PCB.
Yes
After separating indoor EVAP OUT sensor connector from the PCB, measure the resistance values between both terminals
Part to measure resistance value
Yes
At that time, is the resistance value significantly deviated from the temp. table?
No
As it is due to an indoor EVAP OUT sensor defect, replace it.
Yes
Re-start after replacing PCB.

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
21	12.1
10	18.0
0	27.3
-10	43.0

4-4-6 Indoor Heat Exchanger's EVAP IN sensor dislocation error

Outdoor unit display	E 128 ↔ A xxx (x x x : The address of the error occurred indoor unit)
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• Indoor heat exchanger's EVAP IN piping sensor has been dislocated

1. How to diagnose

1) During Cooling Operation

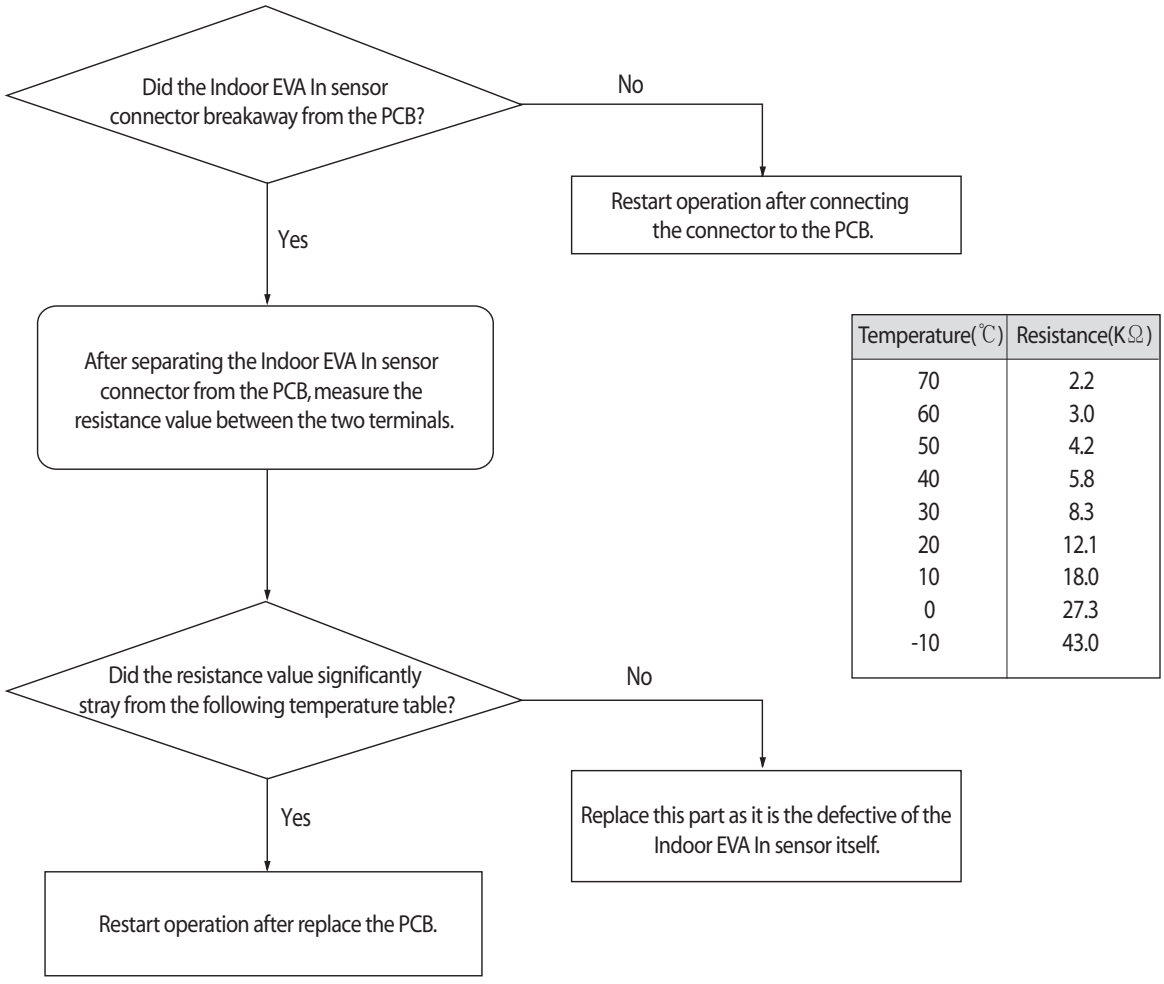
Tcond, out - Tair, out > 3℃	OK
Tair, in - Teva, out > 4℃	NO
Tair, in - Teva, out > 4℃	OK
Compressor in operation & Indoor Unit operation & Thermo On	OK
Error details	Breakaway Error of Indoor Heat Exchanger EVA Out sensor

* Hydro Unit : Before and after the Compressor operation, EVA Out temperature difference is less than 3℃.

2) During Heating operation

Average high pressure > 25kg/cm²	OK
Average low pressure > 8.5kg/cm²	OK
Tcond, out - Tair, out ≥ 3℃	OK
Tair, in - Teva, out ≥ 2℃	NO
Tcond, out - Tair, out < -2℃	OK
Compressor in operation & Indoor Unit operation & Thermo On	OK
Error details	Breakaway Error of Indoor Heat Exchanger EVA Out sensor

2. How to check


Did the Indoor EVA In sensor connector breakaway from the PCB?
No
Restart operation after connecting the connector to the PCB.
Yes
After separating the Indoor EVA In sensor connector from the PCB, measure the resistance value between the two terminals.
Did the resistance value significantly stray from the following temperature table?
No
Replace this part as it is the defective of the Indoor EVA In sensor itself.
Yes
Restart operation after replace the PCB.

Temperature(℃)	Resistance(KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-7 Indoor Heat Exchanger's EVA OUT sensor dislocation error (Open/Short)

Outdoor unit display	E 129 ↔ A xxx (x x x : The address of the error occurred indoor unit)
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Refer to the judgment method below.
Cause of problem	• Breakaway of Indoor Heat Exchanger EVA Out sensor

1. How to diagnose

1) During Cooling Operation

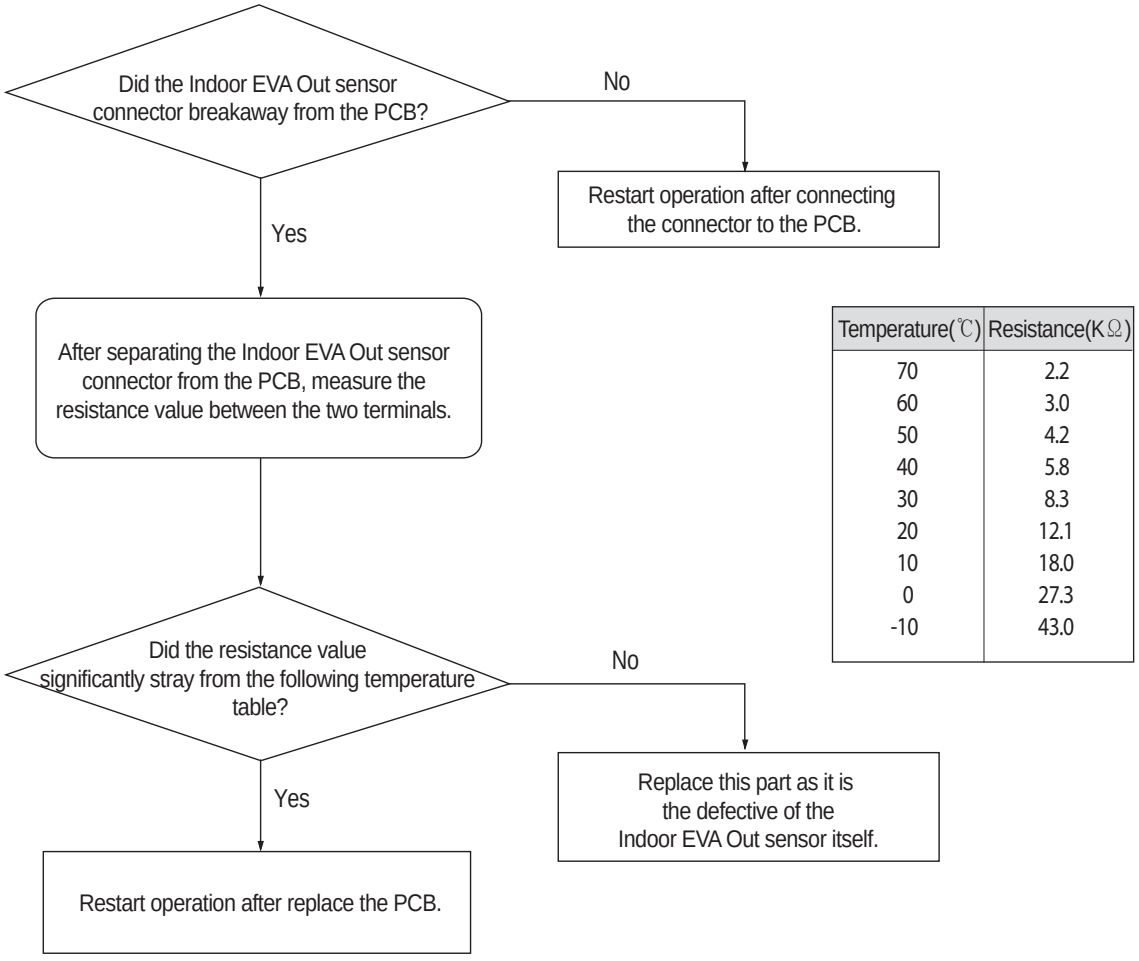
Tcond, out - Tair, out > 3℃	OK
Tair, in - Teva, out > 4℃	NO
Tair, in - Teva, out > 4℃	OK
Compressor in operation & Indoor Unit operation & Thermo On	OK
Error details	Breakaway Error of Indoor Heat Exchanger EVA Out sensor

* Hydro Unit : Before and after the Compressor operation, EVA Out temperature difference is less than 3℃.

2) During Heating operation

Average high pressure > 25kg/㎠	OK
Average low pressure > 8.5kg/㎠	OK
Tcond, out - Tair, out ≥ 3℃	OK
Tair, in - Teva, out ≥ 2℃	NO
Tcond, out - Tair, out < -2℃	OK
Compressor in operation & Indoor Unit operation & Thermo On	OK
Error details	Breakaway Error of Indoor Heat Exchanger EVA Out sensor

2. How to check


Did the Indoor EVA Out sensor connector breakaway from the PCB?
No
Restart operation after connecting the connector to the PCB.
Yes
After separating the Indoor EVA Out sensor connector from the PCB, measure the resistance value between the two terminals.
Did the resistance value significantly stray from the following temperature table?
No
Replace this part as it is the defective of the Indoor EVA Out sensor itself.
Yes
Restart operation after replace the PCB.

Temperature(℃)	Resistance(KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-8 Simultaneous Indoor Heat Exchanger's EVA IN, OUT sensor dislocation error (Open/Short)

1. How to diagnose
   1) During Cooling Operation

Tcond, out - Tair, out > 3°C	OK
Tair, in - Teva, out > 4°C	NO
Tair, in - Teva, out > 4°C	NO
Compressor in operation & Indoor unit operation & Thermo On	OK
Error details	Simultaneous indoor heat exchanger's EVA IN, OUT sensor dislocation error

   2) During Heating operation

Average high pressure > 25kg/㎠	OK
Average low pressure > 8.2kg/㎠	OK
Teva, out - Tair, out ≥ 3°C	NO
Tair, in - Teva, out ≥ 2°C	NO
Tcond, out - Tair, out < -2°C	OK
Compressor in operation & Indoor unit operation & Thermo On	OK
Error details	Simultaneous Indoor heat exchanger's EVA IN, OUT sensor dislocation error

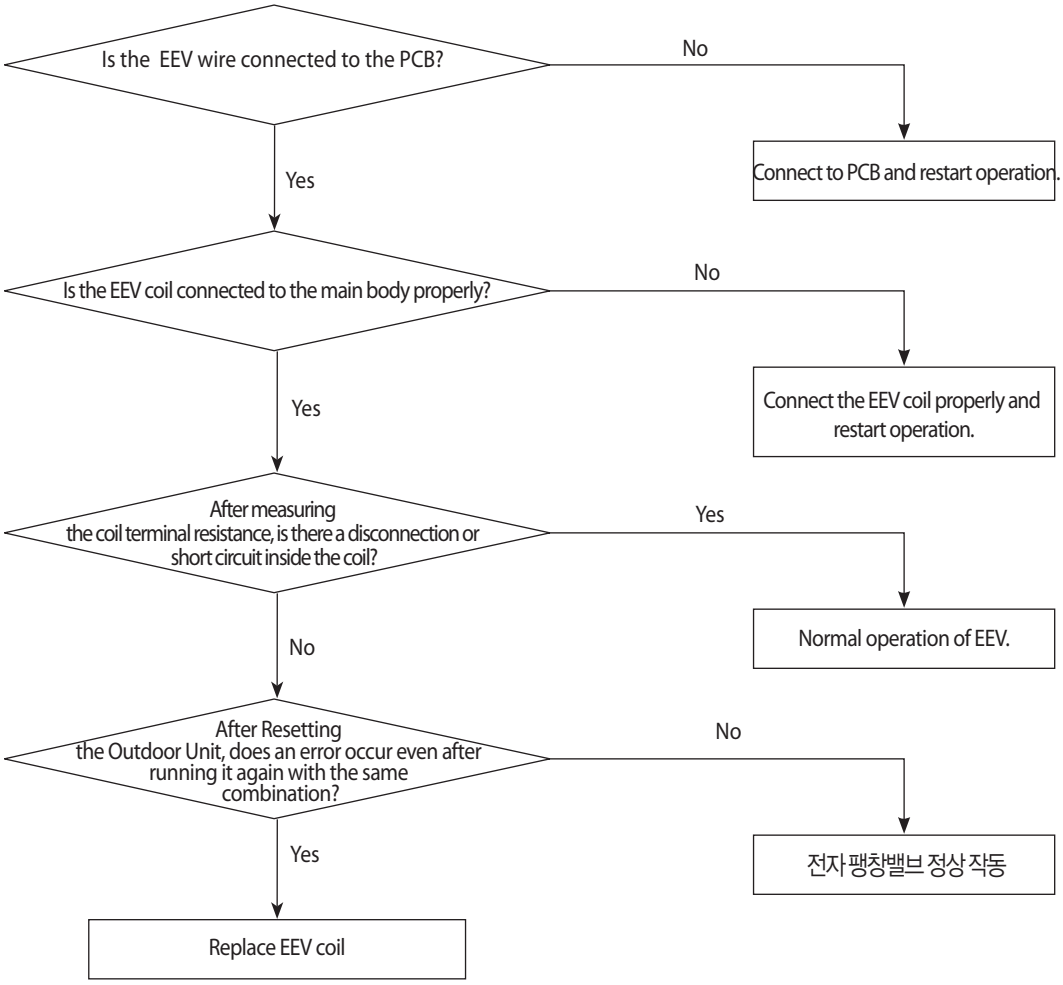
2. How to check
   Check if an Indoor heat exchanger's EVA IN, OUT sensor has been dislocated then is correct after assembling.

4-4-9 Electronic Expansion Valve opening malfunction (2nd stage) - E 135

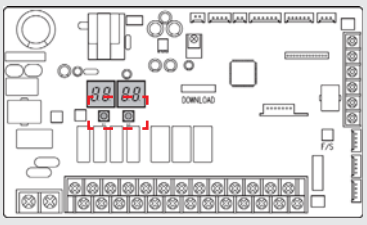
Outdoor unit display	1st detection : P703 (Outdoor Unit display only) 2nd detection : E 135 ↔ A xxx (x x x : The address of the error occurred indoor unit)
Indoor unit display	×(Operation) ×(Timer) ◑(Fan) ×(Filter) ×(Defrost)
Criteria	• Refer to the judgment method below.
Cause of problem	• Faulty Indoor Unit EEV action. (Refrigerant will leak into the stopped Indoor Unit.)

1. How to diagnose
   - During Cooling operation, the temperature of the inlet or outlet of stopped Heat Exchanger is kept lower than 0˚C for more than 20 minutes without cessation.
   - Hydro Unit : During the defrost operation, detection from stop-side Indoor Unit. (Temperature of the inlet of Heat Exchanger is kept lower than 0˚C for more than 20 minutes without cessation.)

2. How to check


Is the EEV wire connected to the PCB?
No
Connect to PCB and restart operation.
Yes
Is the EEV coil connected to the main body properly?
No
Connect the EEV coil properly and restart operation.
Yes
After measuring the coil terminal resistance, is there a disconnection or short circuit inside the coil?
Yes
Normal operation of EEV.
No
After Resetting the Outdoor Unit, does an error occur even after running it again with the same combination?
No
전자팽창밸브 정상 작동
Yes
Replace EEV coil

*** How to turn off the Hydro Unit E151**
- Hydro Unit PCB k1, k2 switch : At the same time push for more than 4 seconds.
- After resolving the cause of the error, restart operation.
  (Excessive reset operation, can cause damage to the Heat Exchanger.)



4-4-10 Breakdown of EEV (2nd)

1. How to diagnose
   Detect only on cooling operation. (No detection during heating operation.)
   During cooling operation, the temperature of the inlet or outlet ducts of heat exchanger is kept below 0˚C for more than 20 minutes without cessation

2. How to check
   1) Check if the wire of electronic expansion valve is correctly connected to the PCB of indoor unit.
   2) Check if the coil of an electronic expansion valve is correctly plugged into the main body.
   3) Check if there is any rust on the surface of the electronic expansion valve with naked eyes then check the resistance between each terminal to find any wire breaking or short circuit.
   4) Press the RESET KEY (K3) of the outdoor unit then see if the same error occurs.
      - In case of closure problem, operate the indoor unit in which the error has occurred.
      - In case of opening problem, please do not operate the indoor unit in which the error has occurred.
   5) If there is no problem with the above checkup items, replace the electronic expansion valve of the troubled indoor unit.
      - As an electronic expansion valve replacement is tricky work that requires collecting refrigerants in all systems, please check the above items before replacement.

4-4-11 Problem with EEV closure (2nd)

1. How to diagnose
   1) During Cooling operation(Each of the below conditions have to be met for at least 20 minutes.)

Tcond, out - Tair, out > 3°C	OK
Tair, in - Teva, out > 4°C	NO
Tair, in - Teva, out > 4°C	NO
Compressor in operation & Indoor unit operation & Thermo On	OK
Error details	Electrically operated valve closure breakdown

   2) During heating operation (must satisfy all conditions below)
   - When more than 2 indoor units are on Thermo On heating operation.
   - When average high pressure is over 18kg/cm^2
   - 5 minutes after finishing Safety Start
   - Keep Indoor units' T(Eva_In)<T(Room) +3˚C and T(Eva_Out)<T(Room) +3˚C condition for more than 5 minutes

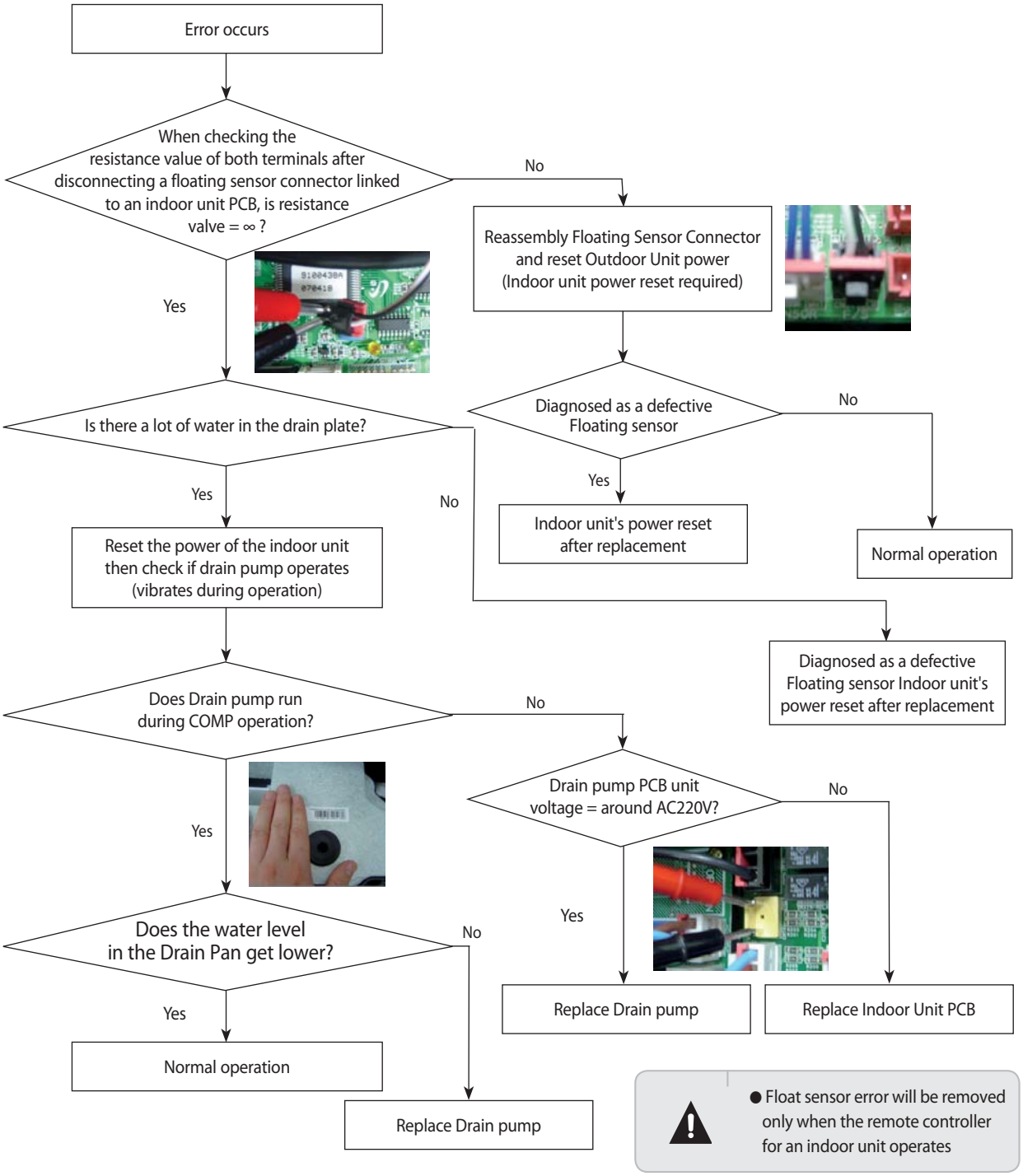
2. How to check
   1) Check if the wire of electronic expansion valve is correctly connected to the PCB of indoor unit.
   2) Check if the coil of electronic expansion valve is correctly plugged into the main body.
   3) Check if there is any rust on the surface of the electronic expansion valve with naked eye then check the resistance between each terminal to find any wire breaking or short circuit.
   4) Press the RESET KEY (K3) of the outdoor unit then see if the same error occurs.
      - In case of closure problem, operate the indoor unit in which the error has occurred.
      - In case of opening problem, please do not operate the indoor unit in which the error has occurred.
   5) If there is no problem with the above checkup items, replace the electronic expansion valve of the troubled indoor unit.
      - As electronic expansion valve replacement is tricky work that requires collecting refrigerants in all systems, please check the above items before replacement.

4-4-12 E 153 : Detection of Floating Switch of Indoor Unit's Drain Pump

Outdoor unit display	E 153 ↔ A x x x(x x x : The address of the error occurred indoor unit)
Indoor unit display	×(Operation) ×(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• Due to the breakdown of a drain pump of the indoor unit, an increase in the water level in the drainage plate or defective detection sensor

✳ To release E153 error, you must reset the power of the indoor unit.

1. How to check


Error occurs
When checking the resistance value of both terminals after disconnecting a floating sensor connector linked to an indoor unit PCB, is resistance valve = ∞ ?
No
Yes
Reassembly Floating Sensor Connector and reset Outdoor Unit power (Indoor unit power reset required)
Is there a lot of water in the drain plate?
Diagnosed as a defective Floating sensor
No
Yes
Yes
No
Indoor unit's power reset after replacement
Normal operation
Reset the power of the indoor unit then check if drain pump operates (vibrates during operation)
Diagnosed as a defective Floating sensor Indoor unit's power reset after replacement
Does Drain pump run during COMP operation?
No
Drain pump PCB unit voltage = around AC220V?
No
Yes
Yes
Does the water level in the Drain Pan get lower?
No
Yes
Replace Drain pump
Replace Indoor Unit PCB
Normal operation
Replace Drain pump
● Float sensor error will be removed only when the remote controller for an indoor unit operates

4-4-13 The operational error of Indoor Unit's Fan Motor

Outdoor unit display	E 154 ↔ A x x x(x x x : The address of the error occurred indoor unit)
Indoor unit display	×(Operation) ×(Timer) ◑(Fan) ×(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• The operational error of the fan motor of No. XXX indoor unit

1. How to diagnose
   1) Occurs when RPM valve fails to feedback to MICOM at a PID control-type fan motor

2. How to check
   1) Check HALL IC connector that carries out feedback of RPM value.
   2) If a fan motor operation capacitor is a PCB separating type, check the connection terminal.
   3) Check the operational status of the fan motor.
   4) If there is no problem with the above checkup items, replace the PCB.

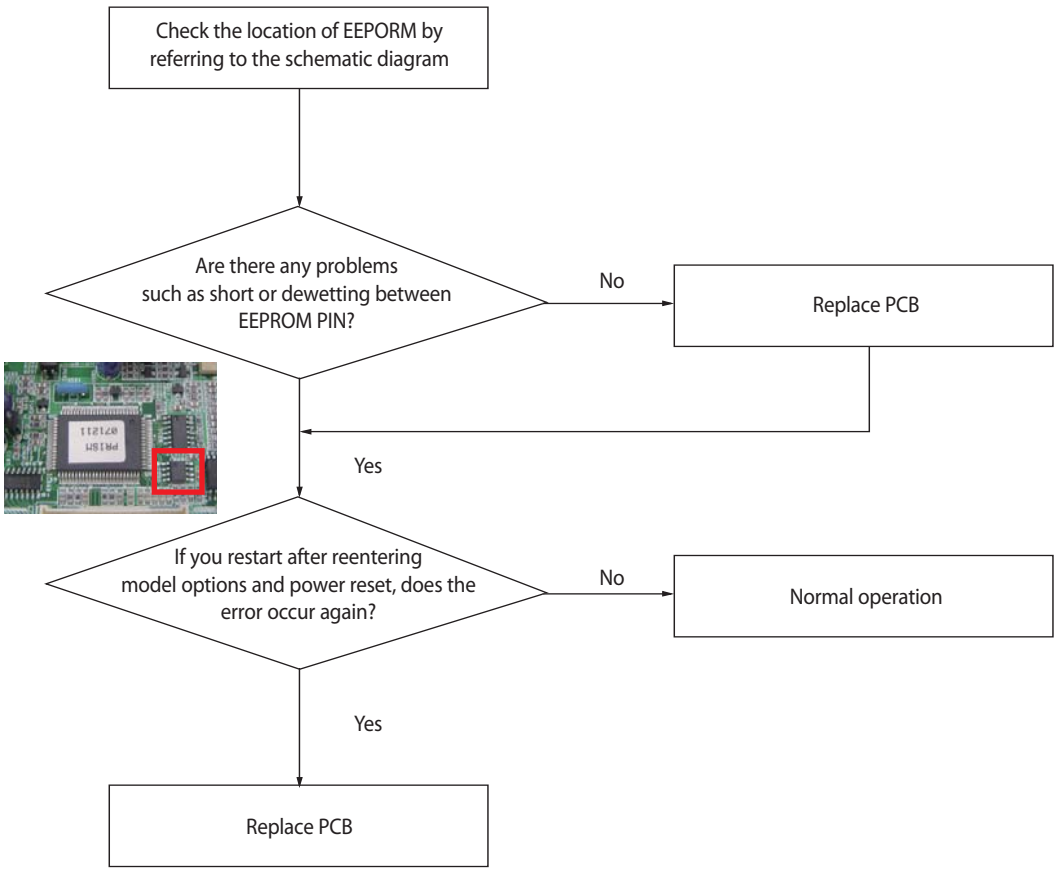
4-4-14 Mixed operation Error (Only applicable to Heat Pump Model/Not to HR model)

- Mixed operation error is applicable only to Heat Pump Model and not to HR model.
- Mixed operation error is not due to a product problem but is displayed when the operational mode input in an indoor unit is different from current operational status (other indoor unit's operational mode).
- Check the operational mode of outdoor unit or other indoor unit then re-enter or stop the operational mode of the relevant unit.
- If it is necessary to apply a different operational mode to an indoor unit from others, please stop other indoor units then operate the indoor unit.

4-4-15 EEPROM error

Outdoor unit display	E 162
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Communication failure between EEPROM and MICOM
Cause of problem	• PCB replacement due to defective EEPROM

1. How to check


Check the location of EEPORM by referring to the schematic diagram
Are there any problems such as short or dewetting between EEPROM PIN?
No
Replace PCB
Yes
If you restart after reentering model options and power reset, does the error occur again?
No
Normal operation
Yes
Replace PCB

4-4-16 Option error of the Remote Controller for an Indoor Unit

Outdoor unit display	E 163
Indoor unit display	◑(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ◑(Defrost)
Criteria	• Display number type of indoor unit – E163 occurs, Lamp type – all lamps flash
Cause of problem	• Missed or erroneous input of remote controller options

● Check relevant remote controller options for each model then enter correct options

4-4-17 Error due to confused use of Fahrenheit and Celsius

Outdoor unit display	E 170
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Display number type of indoor unit – E170 occurs, Lamp type – all lamps flash • Occurs in an indoor unit with Celsius setting
Cause of problem	• Missed input of remote controller options

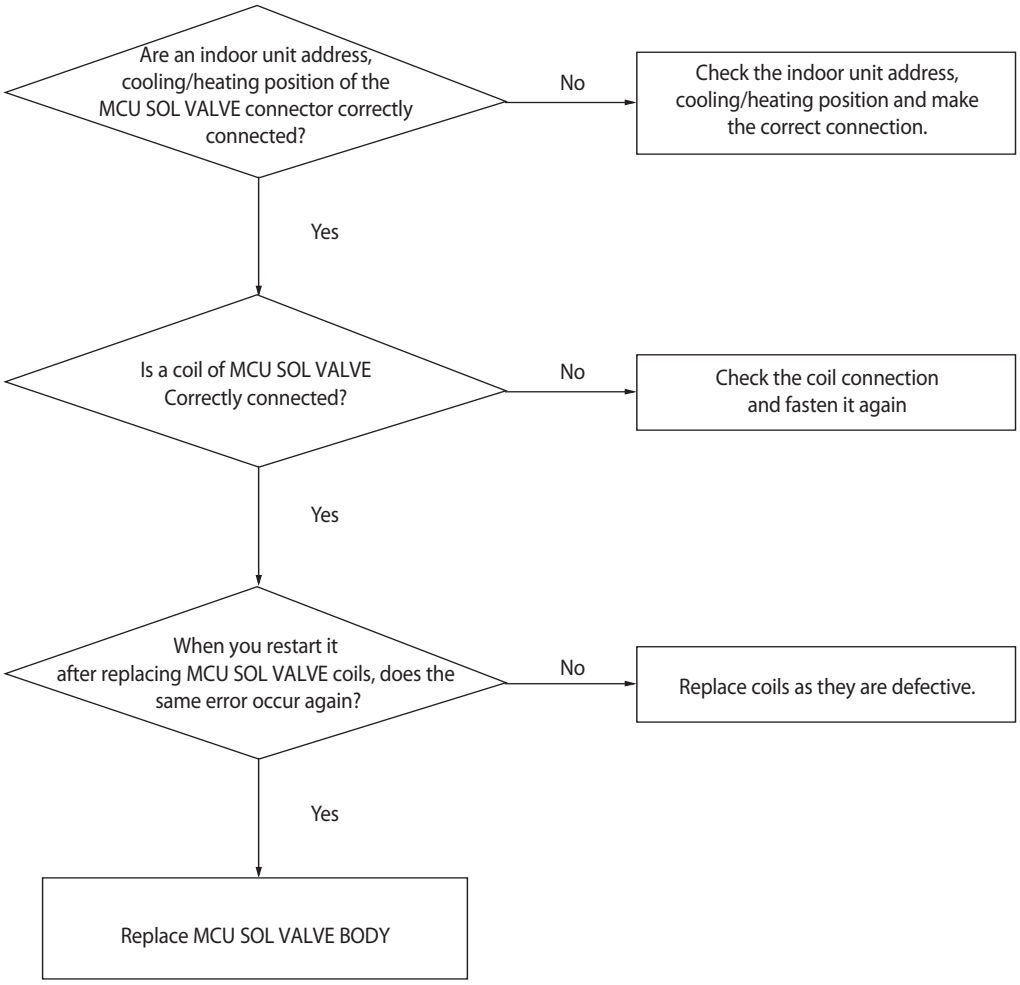
● Check relevant remote controller options for each model then enter correct options

● As this happens only in a Celsius setting model, it is necessary to reenter option codes for error-free models in a region where Celsius is used.

4-4-18 Simultaneous opening of Cooling/heating MCU SOL Valves 1st/2nd

- During the first detection, as the system restarts after making an automatic stop to check a problem with the system
- During the second detection, please refer to the following check-up methods.

1. How to check


Are an indoor unit address, cooling/heating position of the MCU SOL VALVE connector correctly connected?
No
Check the indoor unit address, cooling/heating position and make the correct connection.
Yes
Is a coil of MCU SOL VALVE Correctly connected?
No
Check the coil connection and fasten it again
Yes
When you restart it after replacing MCU SOL VALVE coils, does the same error occur again?
No
Replace coils as they are defective.
Yes
Replace MCU SOL VALVE BODY

4-4-19 Error due to incorrect Indoor Unit Power/Communication Cable Connection

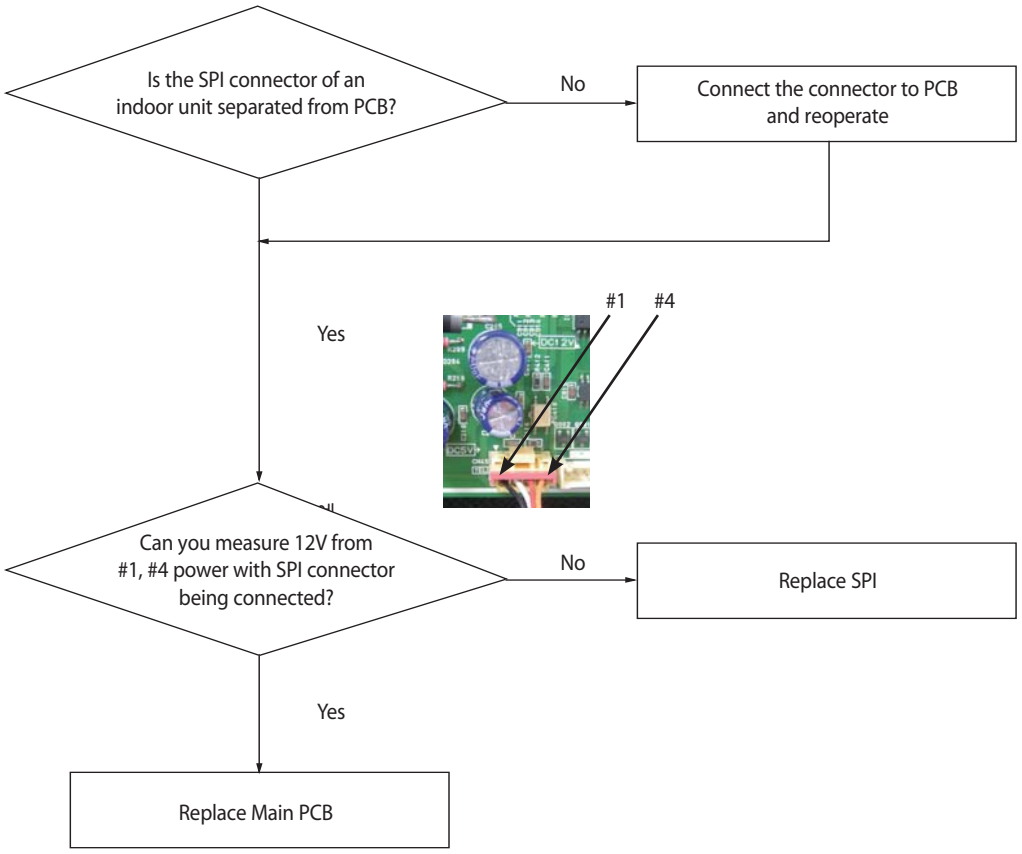
Outdoor unit display	E 185
Indoor unit display	E 185 (wall mount type)
Criteria	• Check for Power input(220V) for the Terminal block(F1/F2).
Cause of problem	• Apply power (220V) to the terminal of the indoor unit communication block (F1/F2)

● Check for disconnected line after turning off the Main power.

4-4-20 SPI Feedback Error

Outdoor unit display	E 186
Indoor unit display	◑(Operation) ◑(Timer) ×(Fan) ◑(Filter) ×(Defrost)
Criteria	• Check if the output of SPI Feedback is 12V
Cause of problem	• SPI defect

1. How to check



4-4-21 Outdoor Unit Pipe Inspection Error

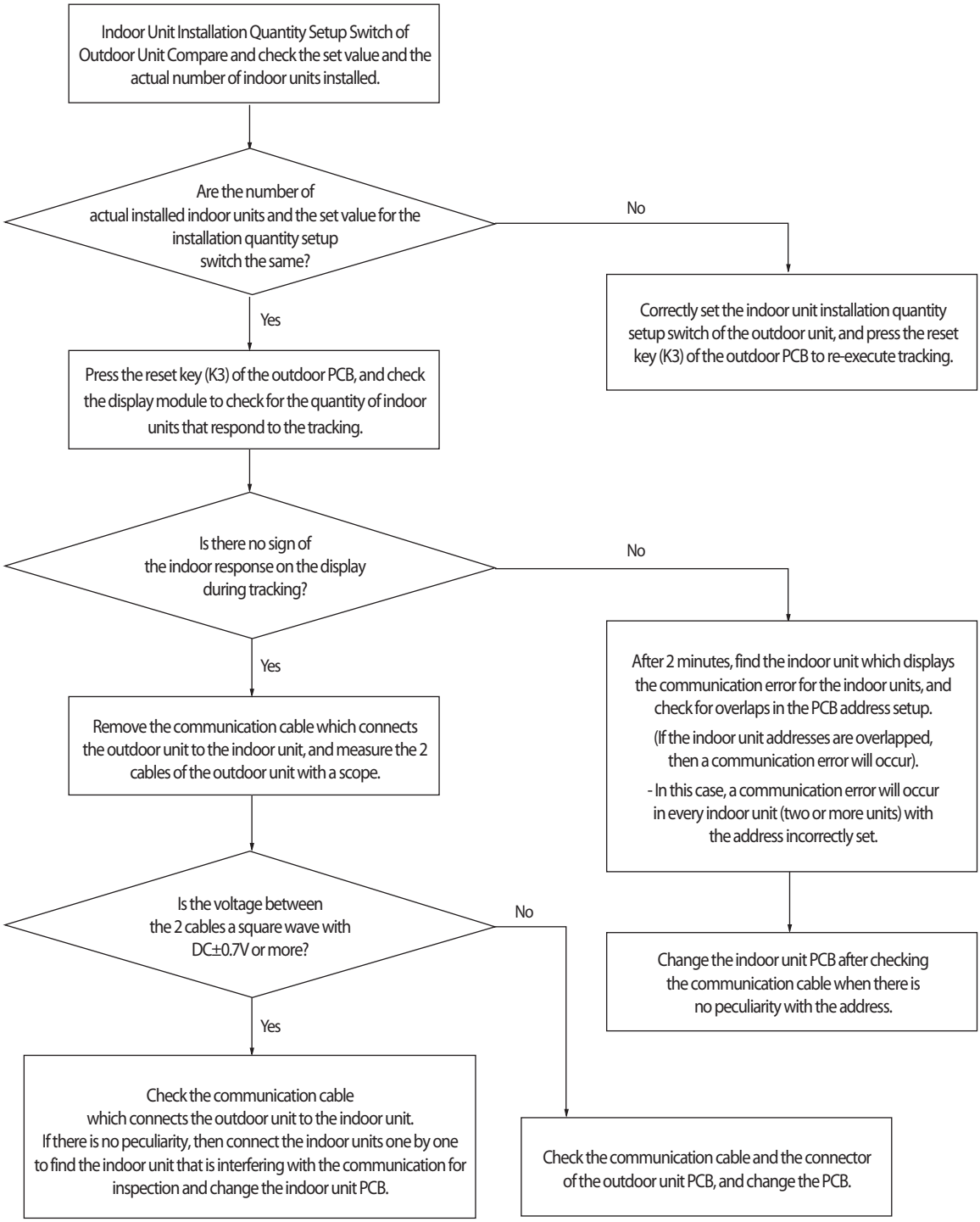
Outdoor Unit Display	E 190 : No change of EVA IN or wrong EVAN IN change during pipe inspection. E 191 : No change of EVA OUT or wrong EVA OUT change during pipe inspection.
Indoor Unit Display	-
Judgment Method	• Refer to the judgment method below
Special Cause	• The liquid pipe/gas pipe of the indoor unit is not correctly connected to the port set in MCU.

1. Judgment Method
   - ● Check if the indoor address settings are the same for the address of the indoor units connected to each port of the MCU and the address of the indoor units of the relevant MCU ports.
   - ● Check if the indoor unit usage setup switch is turned on for the MCU port connected to the indoor unit.

4-4-22 Communication Error between Indoor and Outdoor Units during Tracking

Outdoor unit display	E201
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Communication error between indoor and outdoor units.
Cause of problem	· Refer to the judgment method below.

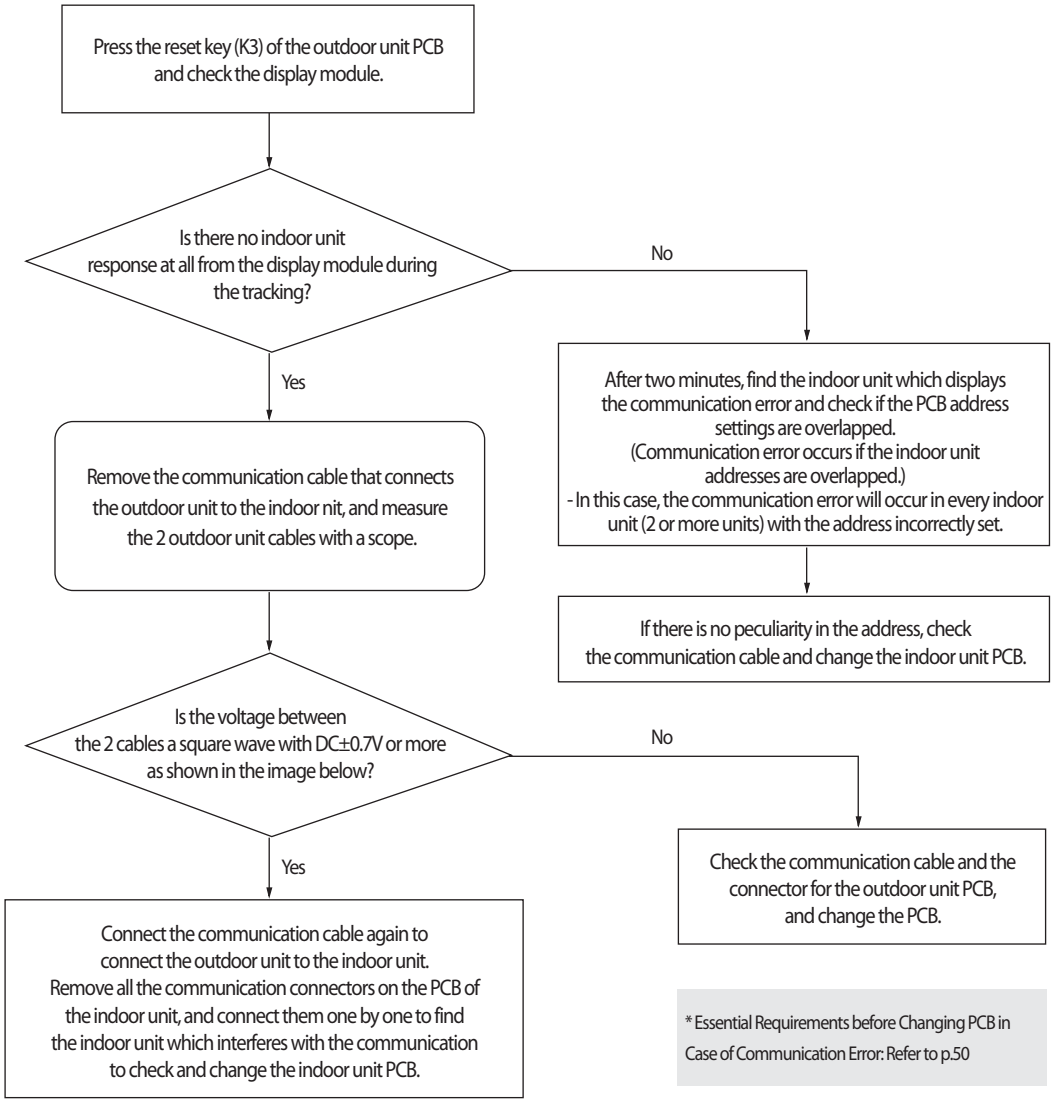
1. Cause of problem

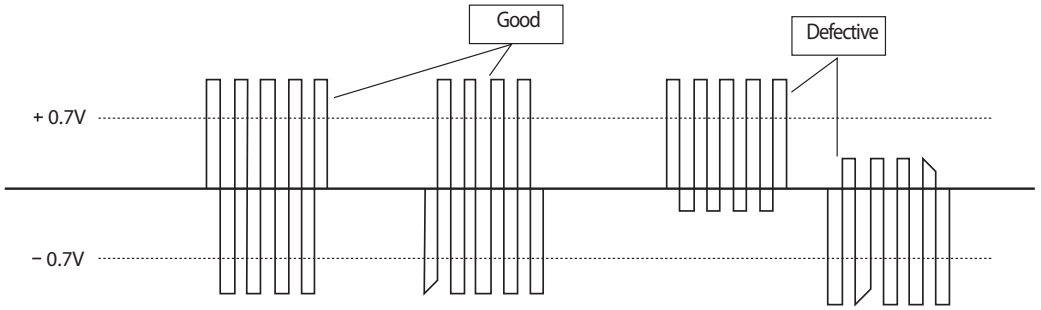

Indoor Unit Installation Quantity Setup Switch of Outdoor Unit Compare and check the set value and the actual number of indoor units installed.
Are the number of actual installed indoor units and the set value for the installation quantity setup switch the same?
No
Correctly set the indoor unit installation quantity setup switch of the outdoor unit, and press the reset key (K3) of the outdoor PCB to re-execute tracking.
Yes
Press the reset key (K3) of the outdoor PCB, and check the display module to check for the quantity of indoor units that respond to the tracking.
Is there no sign of the indoor response on the display during tracking?
No
After 2 minutes, find the indoor unit which displays the communication error for the indoor units, and check for overlaps in the PCB address setup.
(If the indoor unit addresses are overlapped, then a communication error will occur).
- In this case, a communication error will occur in every indoor unit (two or more units) with the address incorrectly set.
Yes
Remove the communication cable which connects the outdoor unit to the indoor unit, and measure the 2 cables of the outdoor unit with a scope.
Is the voltage between the 2 cables a square wave with DC±0.7V or more?
No
Change the indoor unit PCB after checking the communication cable when there is no peculiarity with the address.
Yes
Check the communication cable which connects the outdoor unit to the indoor unit.
If there is no peculiarity, then connect the indoor units one by one to find the indoor unit that is interfering with the communication for inspection and change the indoor unit PCB.
Check the communication cable and the connector of the outdoor unit PCB, and change the PCB.

4-4-23 Communication Error between Indoor and Outdoor Units after Tracking

Outdoor unit display	E202
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Outdoor unit is unable to communicate for two minutes during operation. (no reception of relocation)
Cause of problem	· Communication error between indoor and outdoor units and setup error of indoor unit installation quantity setup switch.

1. Cause of problem

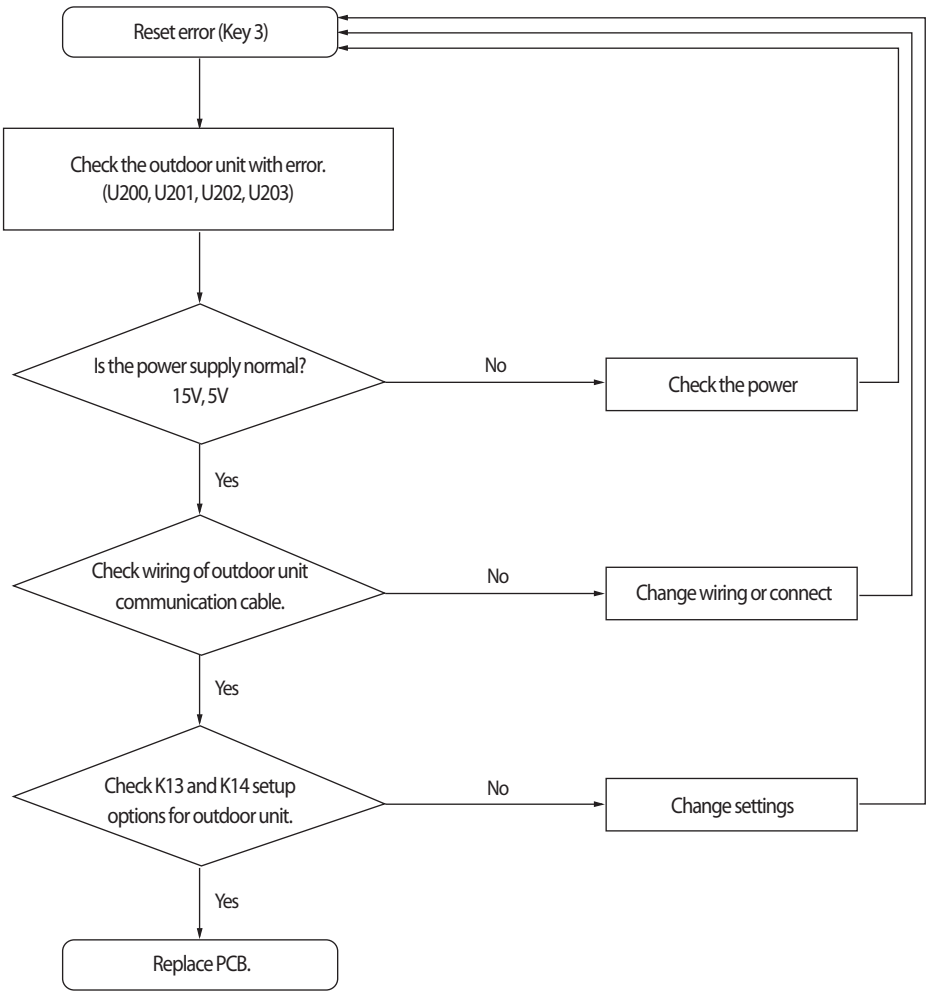

Press the reset key (K3) of the outdoor unit PCB and check the display module.
Is there no indoor unit response at all from the display module during the tracking?
No
Yes
After two minutes, find the indoor unit which displays the communication error and check if the PCB address settings are overlapped.
(Communication error occurs if the indoor unit addresses are overlapped.)
- In this case, the communication error will occur in every indoor unit (2 or more units) with the address incorrectly set.
Remove the communication cable that connects the outdoor unit to the indoor nit, and measure the 2 outdoor unit cables with a scope.
If there is no peculiarity in the address, check the communication cable and change the indoor unit PCB.
Is the voltage between the 2 cables a square wave with DC±0.7V or more as shown in the image below?
No
Yes
Check the communication cable and the connector for the outdoor unit PCB, and change the PCB.
Connect the communication cable again to connect the outdoor unit to the indoor unit.
Remove all the communication connectors on the PCB of the indoor unit, and connect them one by one to find the indoor unit which interferes with the communication to check and change the indoor unit PCB.
* Essential Requirements before Changing PCB in Case of Communication Error: Refer to p.50



4-4-24 Communication error between main and sub Unit of outdoor unit or between outdoor units

Outdoor unit display	E203
Indoorunit display	-
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Communication error between outdoor units.

1. Cause of problem

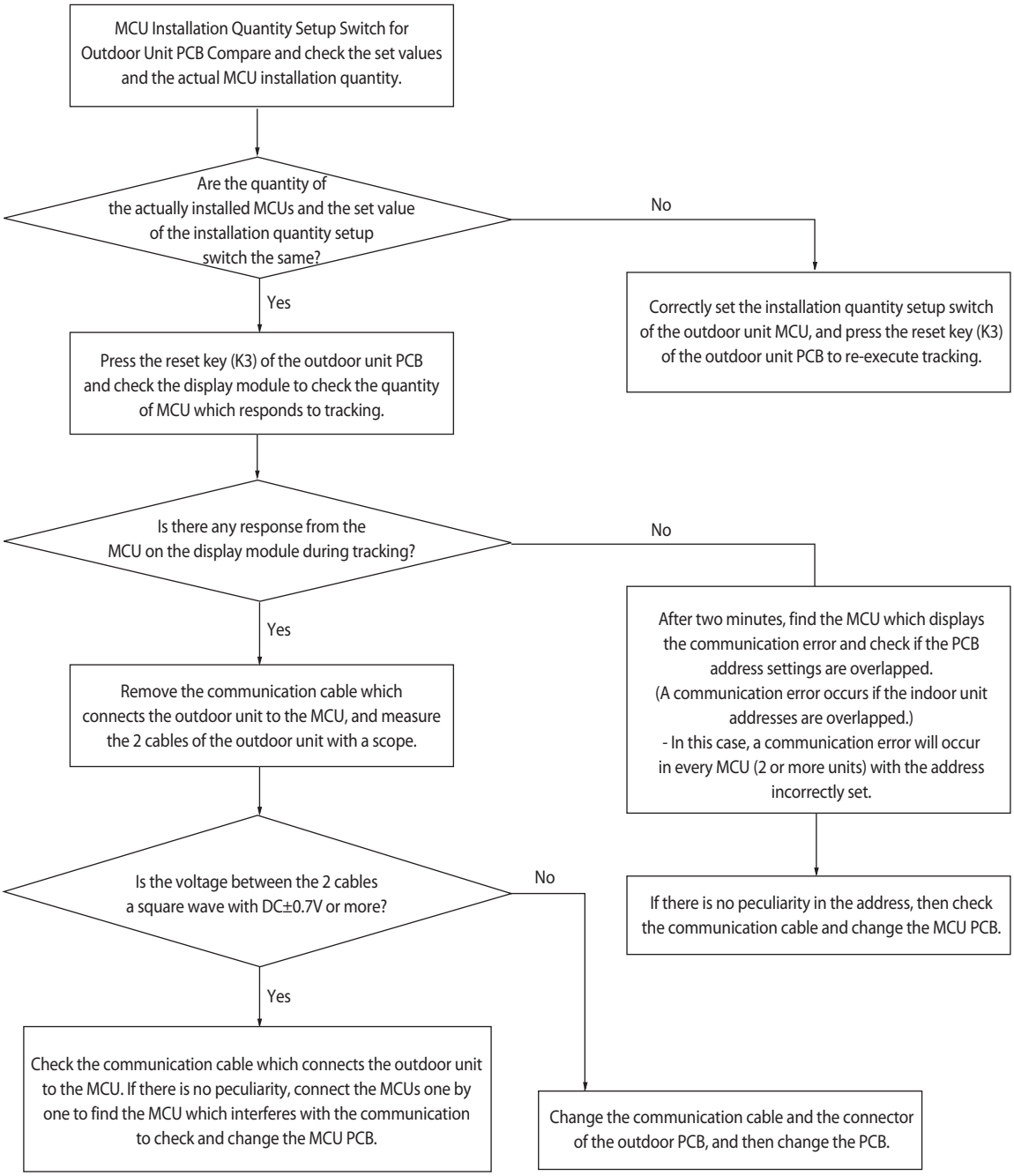


Essential Requirements before Changing PCB in Case of Communication Error: Refer to p.59

4-4-25 Communication Error between MCU and Outdoor Unit

Outdoor Unit Display	E204
Indoor Unit Display	-
Judgment Method	• Communication Error between MCU and outdoor unit
Special Cause	• Reference below

1. Inspection Method

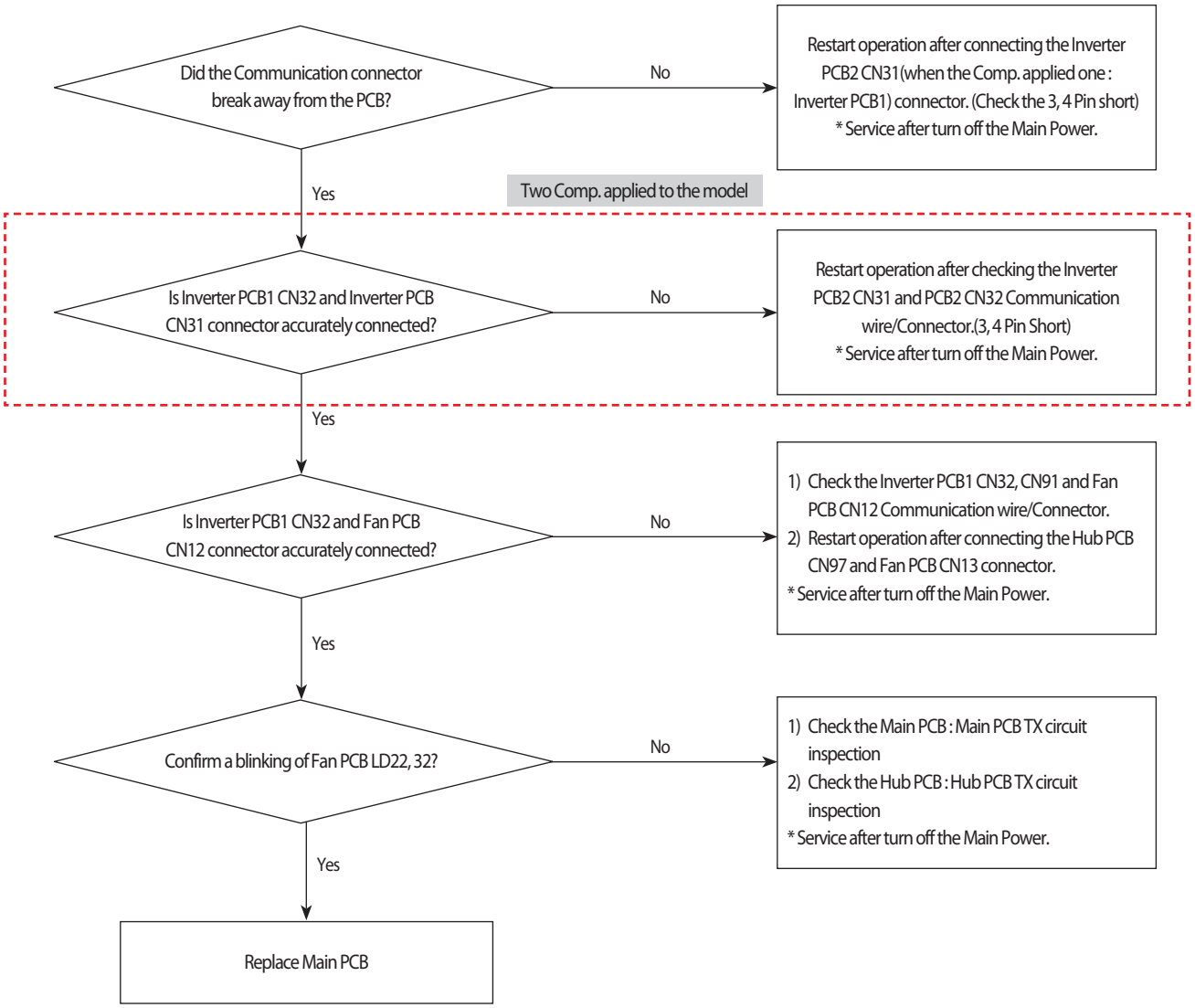

MCU Installation Quantity Setup Switch for Outdoor Unit PCB Compare and check the set values and the actual MCU installation quantity.
Are the quantity of the actually installed MCUs and the set value of the installation quantity setup switch the same?
No
Correctly set the installation quantity setup switch of the outdoor unit MCU, and press the reset key (K3) of the outdoor unit PCB to re-execute tracking.
Yes
Press the reset key (K3) of the outdoor unit PCB and check the display module to check the quantity of MCU which responds to tracking.
Is there any response from the MCU on the display module during tracking?
No
After two minutes, find the MCU which displays the communication error and check if the PCB address settings are overlapped.
(A communication error occurs if the indoor unit addresses are overlapped.)
- In this case, a communication error will occur in every MCU (2 or more units) with the address incorrectly set.
Yes
Remove the communication cable which connects the outdoor unit to the MCU, and measure the 2 cables of the outdoor unit with a scope.
Is the voltage between the 2 cables a square wave with DC±0.7V or more?
No
If there is no peculiarity in the address, then check the communication cable and change the MCU PCB.
Yes
Check the communication cable which connects the outdoor unit to the MCU. If there is no peculiarity, connect the MCUs one by one to find the MCU which interferes with the communication to check and change the MCU PCB.
Change the communication cable and the connector of the outdoor PCB, and then change the PCB.

❊ **Essential Requirements before Changing PCB in Case of Communication Error: Refer to p.4-80**

4-4-26 Internal Communication error of the Outdoor Unit C-Box

Outdoor unit display	E205
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Communication error between the C-Box PCB
Cause of problem	· Communication wire inside the C-Box is unconnected · Main PCB defective

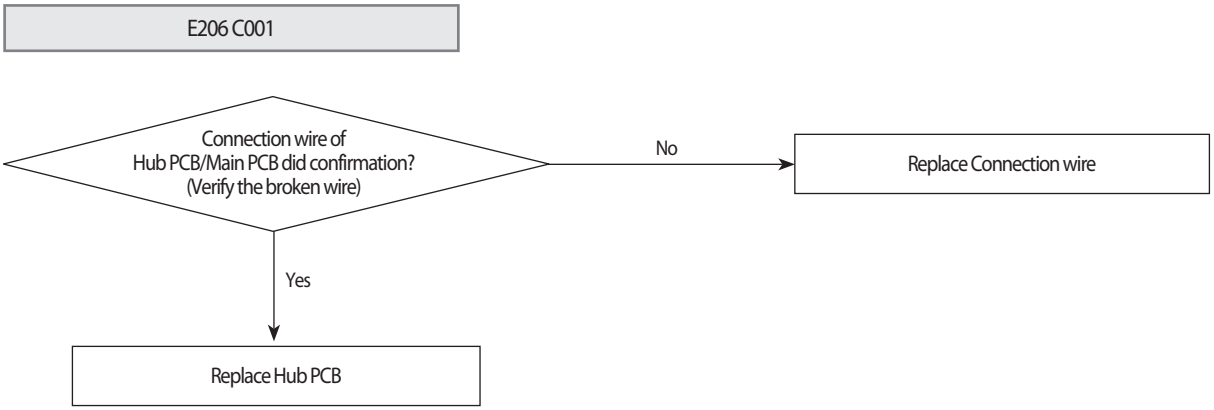
1. Cause of problem

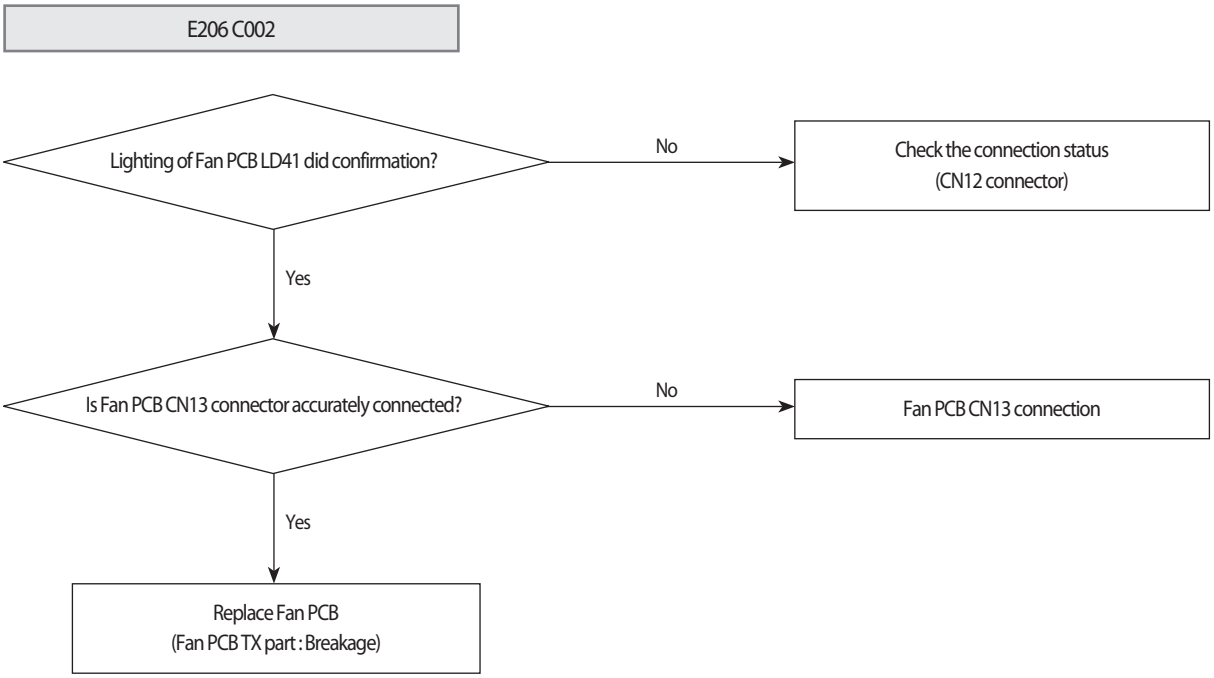

Did the Communication connector break away from the PCB?
No
Restart operation after connecting the Inverter PCB2 CN31(when the Comp. applied one : Inverter PCB1) connector. (Check the 3, 4 Pin short)
* Service after turn off the Main Power.
Yes
Two Comp. applied to the model
Is Inverter PCB1 CN32 and Inverter PCB CN31 connector accurately connected?
No
Restart operation after checking the Inverter PCB2 CN31 and PCB2 CN32 Communication wire/Connector.(3, 4 Pin Short)
* Service after turn off the Main Power.
Yes
Is Inverter PCB1 CN32 and Fan PCB CN12 connector accurately connected?
No
1) Check the Inverter PCB1 CN32, CN91 and Fan PCB CN12 Communication wire/Connector.
2) Restart operation after connecting the Hub PCB CN97 and Fan PCB CN13 connector.
* Service after turn off the Main Power.
Yes
Confirm a blinking of Fan PCB LD22, 32?
No
1) Check the Main PCB : Main PCB TX circuit inspection
2) Check the Hub PCB : Hub PCB TX circuit inspection
* Service after turn off the Main Power.
Yes
Replace Main PCB

4-4-27 Internal PCB Communication error of the Outdoor Unit C-Box

Outdoor unit display	E206
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· PCB does not respond to the invoked Main PCB
Cause of problem	· C-Box internal Inverter PCB, Fan PCB, Hub PCB defective

1. Cause of problem

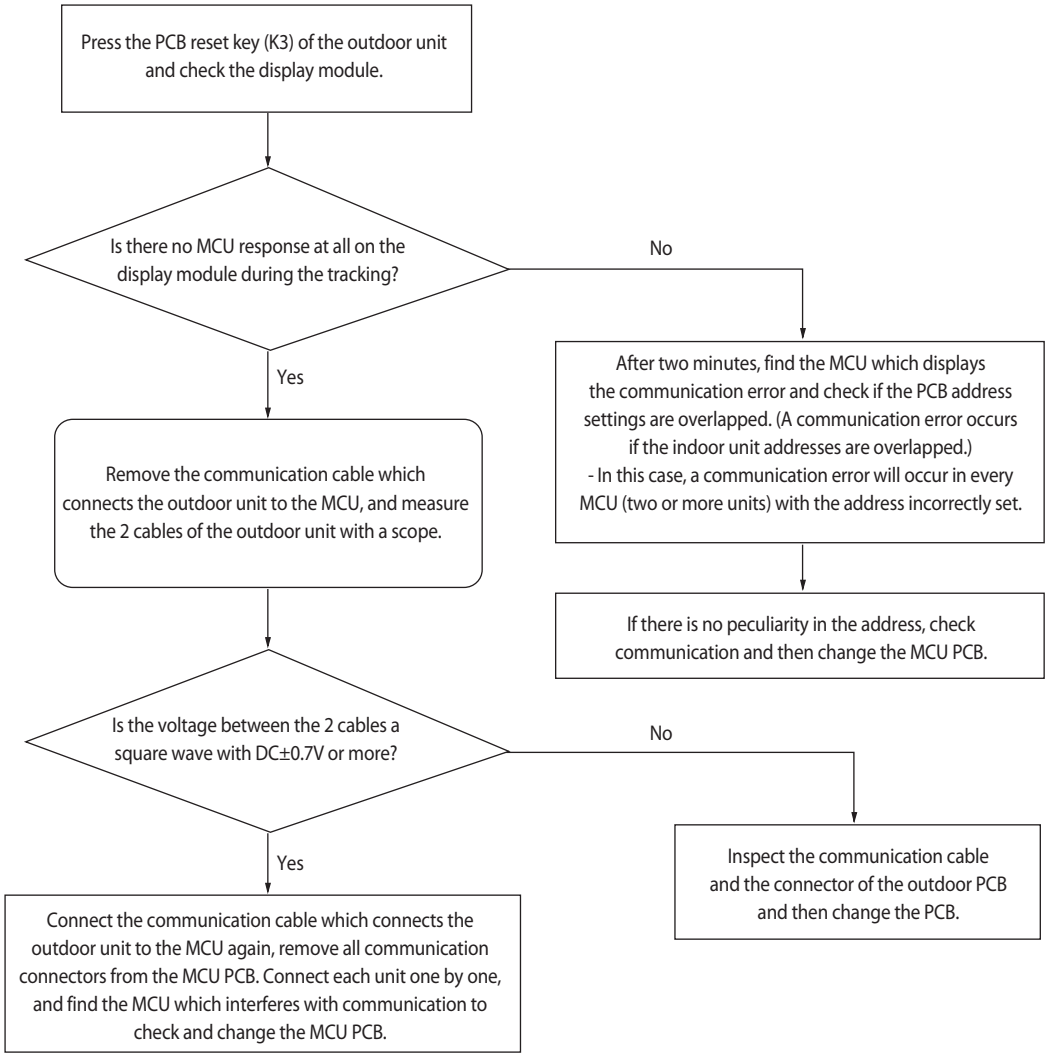




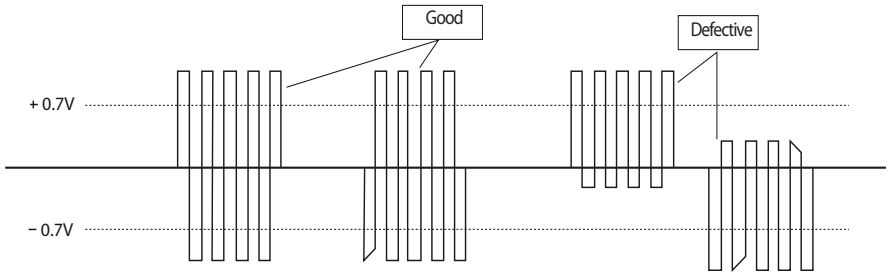
4-4-28 Communication Error between MCU and Outdoor Unit after Tracking is Completed

Outdoor Unit Display	E210
Indoor Unit Display	-
Judgment Method	• Outdoor unit is unable to communicate for two or more minutes during operation (no reception of relocation)
Special Cause	• Communication error between indoor and outdoor units and setup error of indoor unit installation quantity setup switch

1. Inspection Method


Press the PCB reset key (K3) of the outdoor unit and check the display module.
Is there no MCU response at all on the display module during the tracking?
No
Yes
After two minutes, find the MCU which displays the communication error and check if the PCB address settings are overlapped. (A communication error occurs if the indoor unit addresses are overlapped.)
- In this case, a communication error will occur in every MCU (two or more units) with the address incorrectly set.
Remove the communication cable which connects the outdoor unit to the MCU, and measure the 2 cables of the outdoor unit with a scope.
If there is no peculiarity in the address, check communication and then change the MCU PCB.
Is the voltage between the 2 cables a square wave with DC±0.7V or more?
No
Yes
Inspect the communication cable and the connector of the outdoor PCB and then change the PCB.
Connect the communication cable which connects the outdoor unit to the MCU again, remove all communication connectors from the MCU PCB. Connect each unit one by one, and find the MCU which interferes with communication to check and change the MCU PCB.

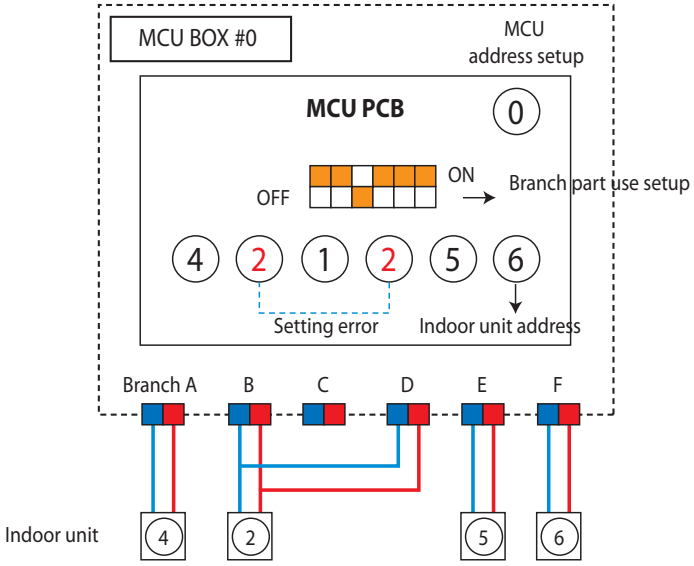
❊ **Essential Requirements before Changing PCB in Case of Communication Error: Refer to p.4-80**



4-4-29 MCU branch part setup error – inconsecutive connection with the use of 2 branch parts

Outdoor unit display	E211
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• When 2 branch parts are used for one indoor unit without connecting them consecutively.
Cause of problem	• Branch part assembly error

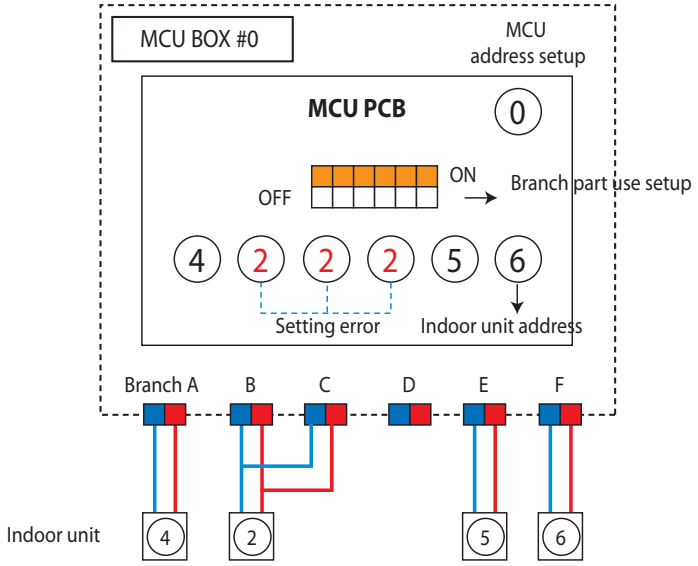
1. How to check
   Find an MCU that is composed as the following picture to carry out assembly of branch part again. After completing the re-setting, press K3 button on the button to reset or turn it off to restart.



4-4-30 MCU branch part setup error – Repeated setup for the same address over 3 times

Outdoor unit display	E212
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• The same indoor unit address was setup more than 3 times in MCU
Cause of problem	• MCU indoor unit address setting error

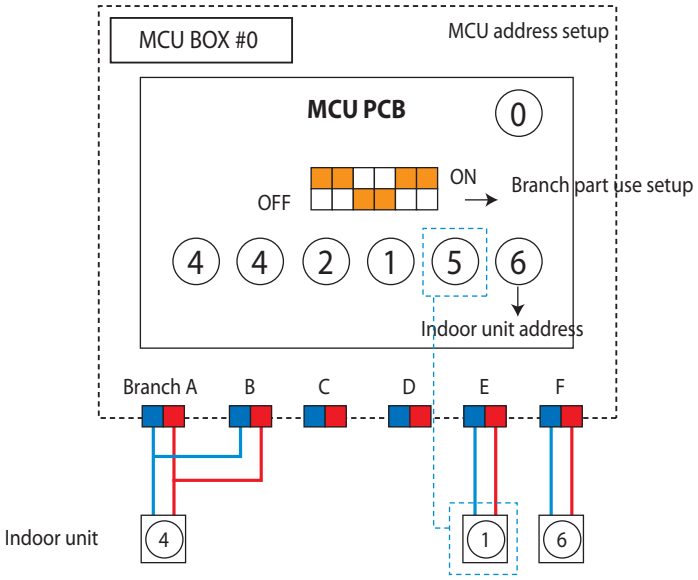
1. How to check
   Find an MCU that is composed as the following picture to carry out assembly of branch part again. After completing the re-setting, press K3 button on the button to reset or turn it off to restart.



4-4-31 MCU branch part setup error – non-installed address setup

Outdoor unit display	E213
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• If there is an indoor unit that is not installed among MCU registered indoor units
Cause of problem	• Indoor unit, with the assigned address on MCU, not installed.

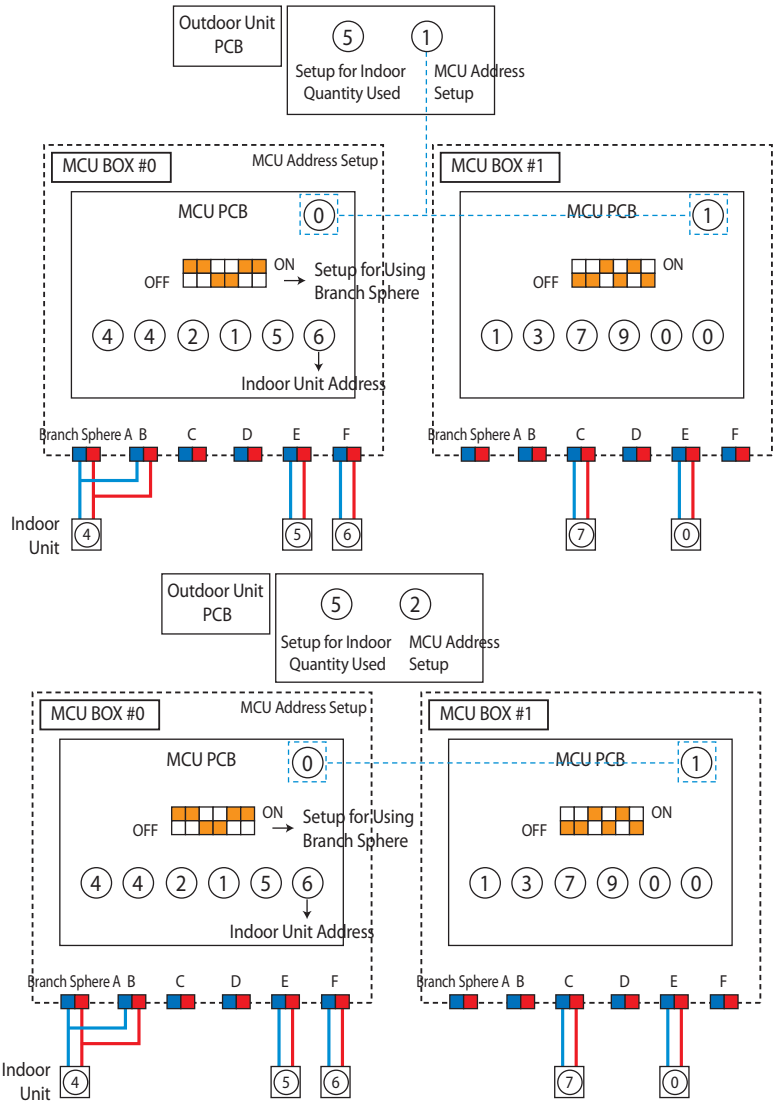
1. How to check
   Find an MCU that is composed as the following picture to carry out assembly of branch part again. After completing the re-setting, press K3 button on the button to reset or turn it off to restart.



4-4-32 Setup Error for MCU Branch part – Setup Error for MCU Quantity Used

Outdoor Unit Display	E2 14
Indoor Unit Display	×(Operation) ◑(Reservation) ◑(Blast) ◑(Filter) ×(Defrost)
Judgment Method	• Occurs when the quantity of MCU is incorrectly set by the outdoor unit. • Occurs when same addresses are found when two or more MCU are connected.
Special Cause	• Outdoor unit MCU setup and same address errors when connecting two or more MCUs .

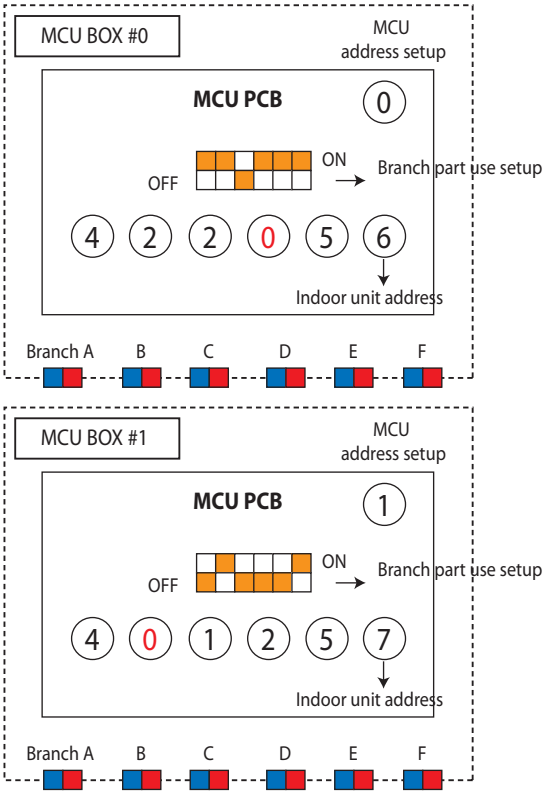
1. Inspection Method : Re-check the MCU quantity setup switch from the outdoor unit.
   Check for overlaps in each MCU address setup switch.
   To use, reset by pressing the K3 button of the outdoor unit after the reset is completed, or reset after turning off the power and then turn it on again.



4-4-33 MCU branch part setup error – Overlapping Indoor unit Address setup

Outdoor unit display	E2 15
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Occurs when an indoor unit address setup switch in MCU has been overlapped
Cause of problem	• Repeated indoor unit address

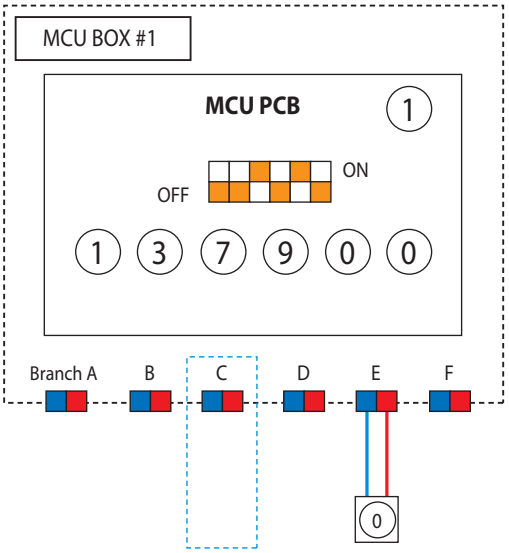
1. How to check
   Check the setup switch for the number of indoor units in MCU
   After completing resetting, press the outdoor unit's K3 button to reset or turn off to restart.



4-4-34 MCU branch part setup error – Set as being used without connection to an Indoor unit

Outdoor unit display	E216
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Occurs when MCU PIPE is set as being used, yet not connected to an indoor unit
Cause of problem	• Pipe is not installed to the indoor unit with assigned address on MCU

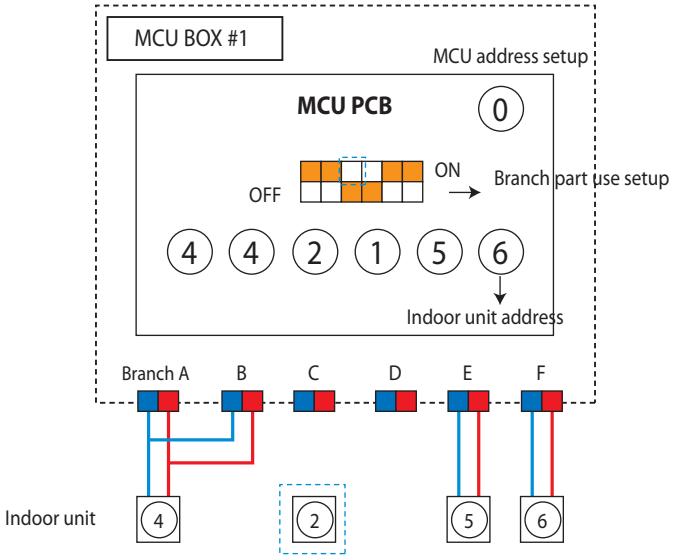
1. How to check
   Adjust the Dip switch that sets up the use of MCU branch part to 'Not-Used'. After completing resetting, press the outdoor unit's K3 button to reset or turn off to restart.



4-4-35 MCU branch part setup error – Connect an Indoor unit to a branch part not being used

Outdoor unit display	E2 17
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Occurs when MCU PIPE is turned off, yet an indoor unit is registered
Cause of problem	• Indoor unit connection to the unused branch part

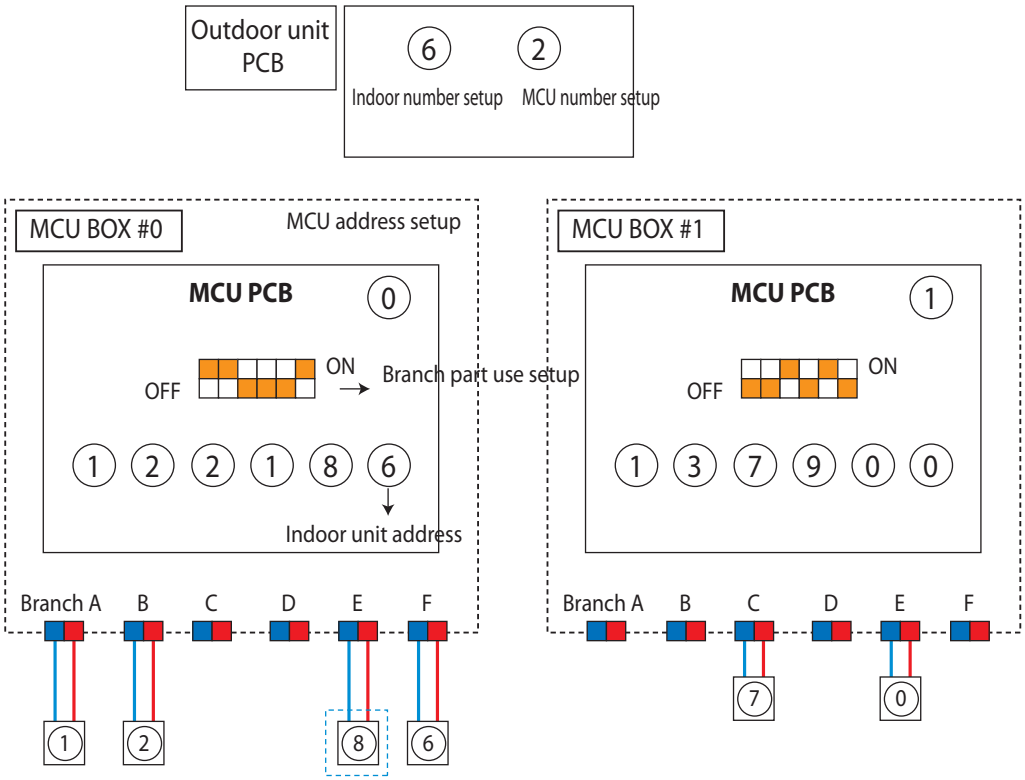
1. How to check
   Check the actual use of the branch part. If it is used, turn on the Dip switch for branch part setup. After completing resetting, press the outdoor unit's K3 button to reset or turn off to restart.



4-4-36 MCU branch part setup error – Connect more Indoor units than what is actually set up in MCU

Outdoor unit display	E218
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Occurs when the number of indoor units installed exceeds that registered in MCU
Cause of problem	• Number of indoor units exceeds number of indoor units entered on MCU setting

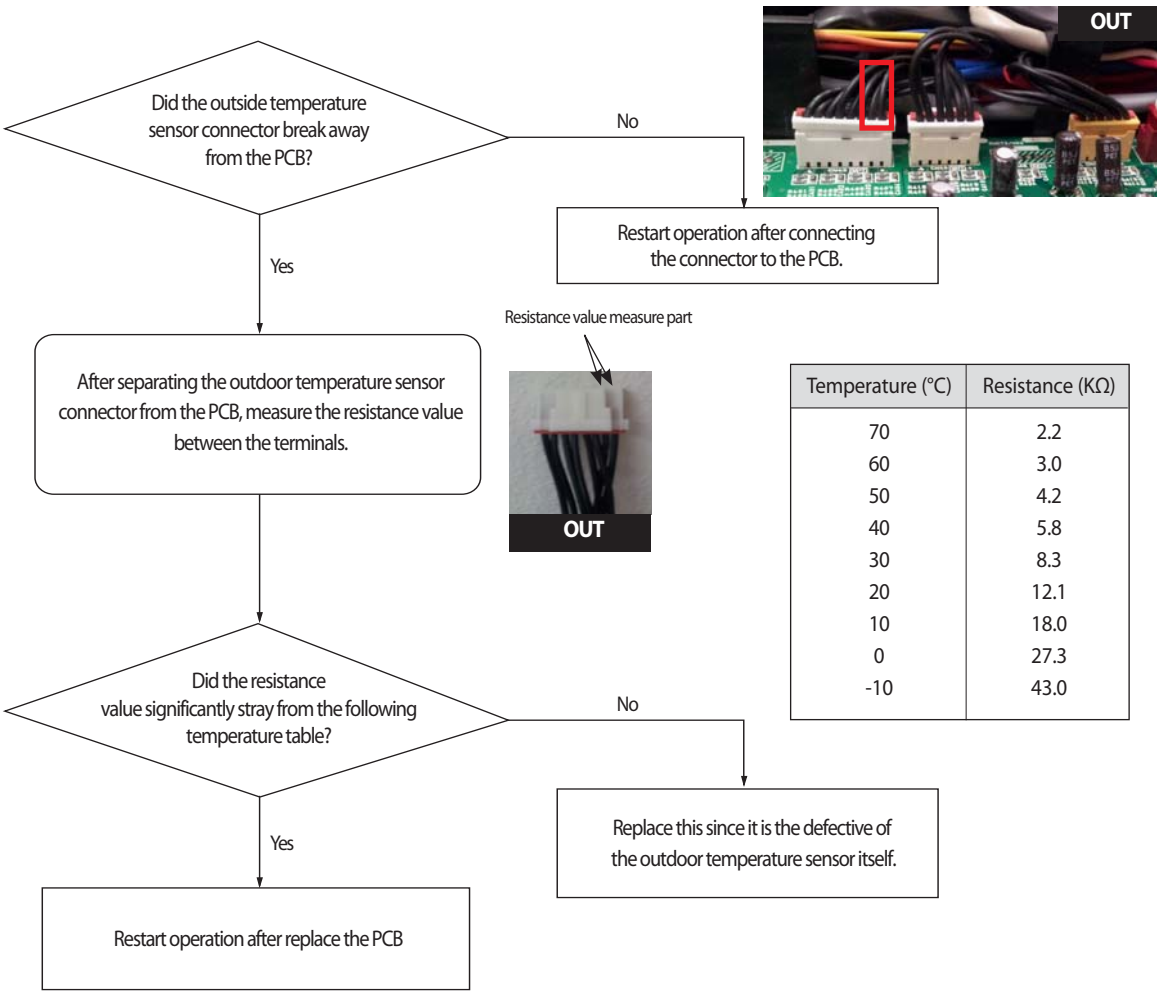
1. How to check
   Check the number of indoor units connected to MCU then readjust the switch for the number of units
   After completing resetting, press the outdoor unit's K3 button to reset or turn off to restart.



4-4-37 Outdoor Temperature Sensor Error

Outdoor unit display	E221
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Outdoor temperature sensor Open/Short is defective.

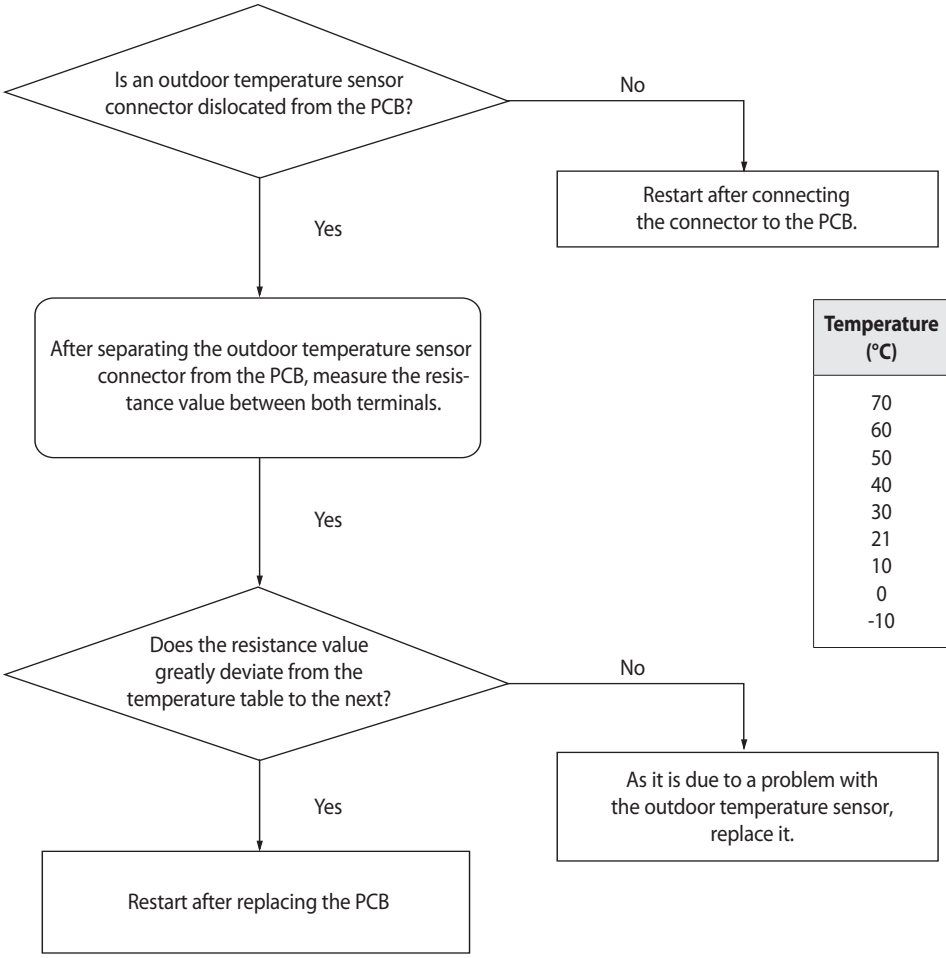
1. Cause of problem


Did the outside temperature sensor connector break away from the PCB?
No
Restart operation after connecting the connector to the PCB.
OUT
Yes
After separating the outdoor temperature sensor connector from the PCB, measure the resistance value between the terminals.
Resistance value measure part
OUT
Did the resistance value significantly stray from the following temperature table?
No
Replace this since it is the defective of the outdoor temperature sensor itself.
Yes
Restart operation after replace the PCB

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-38 Outdoor Temperature dislocation error

1. How to check


Is an outdoor temperature sensor connector dislocated from the PCB?
No
Restart after connecting the connector to the PCB.
Yes
After separating the outdoor temperature sensor connector from the PCB, measure the resistance value between both terminals.
Yes
Does the resistance value greatly deviate from the temperature table to the next?
No
As it is due to a problem with the outdoor temperature sensor, replace it.
Yes
Restart after replacing the PCB

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
21	12.1
10	18.0
0	27.3
-10	43.0

4-4-39 Cond Out Temperature Sensor Error (Open/Short)

Outdoor unit display	E231
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

1. Cause of problem

Did the outdoor Cond Out sensor connector break away from the PCB?

No

Restart operation after connecting the connector to the PCB.

Yes

After separating the outdoor Cond Out sensor connector from the PCB, measure the resistance value between the two terminals.

Resistance value measure part

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

Did the resistance value significantly stray from the following temperature table?

No

Replace this part as it is the defective of the outdoor Cond Out sensor itself.

Yes

Restart operation after replace the PCB

4-4-40 Outdoor Cond Out sensor breakaway error

Outdoor unit display	E241
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Outdoor Cond Out sensor breakaway/defective/ relevant path blocked.

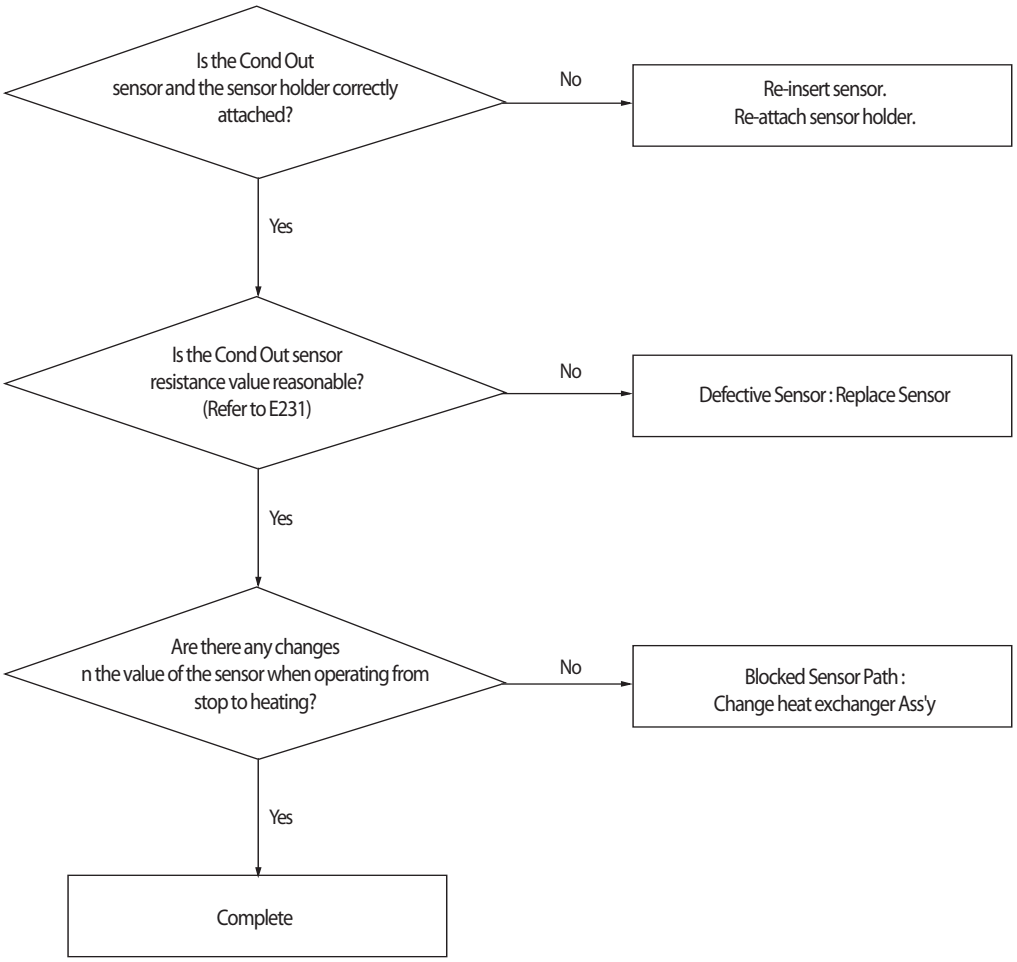
1. Judgment Method

   1) No inspection for Cooling operation.

   2) For heating operation (Each of the conditions below needs to be satisfied for more than 20 minutes.)

High pressure average > 25kg/cm^2	OK
Low pressure average < 8.5kg/cm^2	OK
Teva, out - Tair, in ≥ 3℃	OK
Teva, in - Tair, in ≥ 2℃	OK
Tcond, out - Tair, out ≤ 0℃	NO
Every compressor is in operation & indoor unit operation and Thermo On	OK
Error Content	Outdoor Cond Out sensor breakaway error

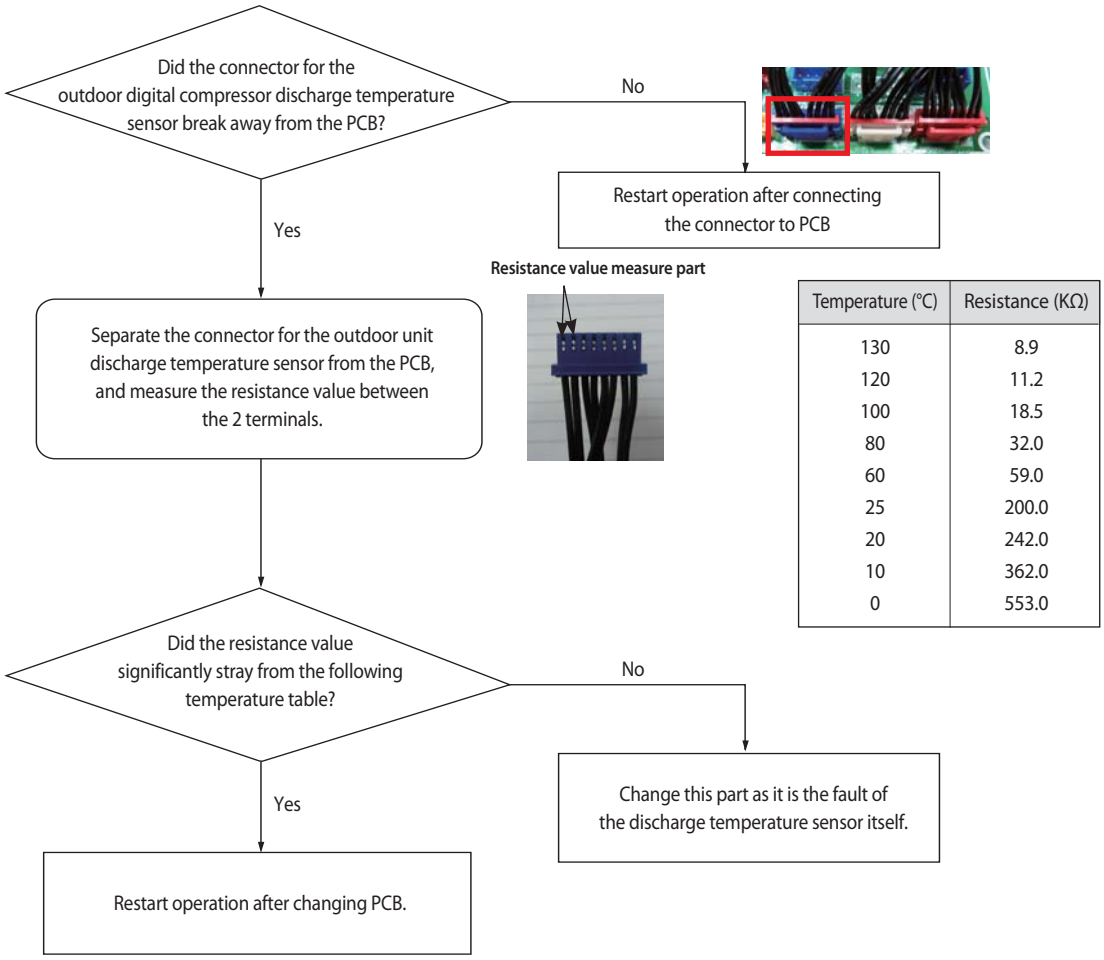
2. Cause of problem


Is the Cond Out sensor and the sensor holder correctly attached?
No
Re-insert sensor. Re-attach sensor holder.
Yes
Is the Cond Out sensor resistance value reasonable? (Refer to E231)
No
Defective Sensor : Replace Sensor
Yes
Are there any changes n the value of the sensor when operating from stop to heating?
No
Blocked Sensor Path : Change heat exchanger Ass'y
Yes
Complete

4-4-41 Digital Compressor Discharge Temperature Sensor Error (OPEN/SHORT)

Outdoor Unit Display	E251
Indoor Unit Display	◑(Operation) ×(Reservation) ◑(Blast) ×(Filter) ×(Defrost)
Judgment Method	• Refer to the inspection method below,
Special Cause	• Digital compressor discharge temperature sensor OPEN/SHORT problem

1. Inspection Method

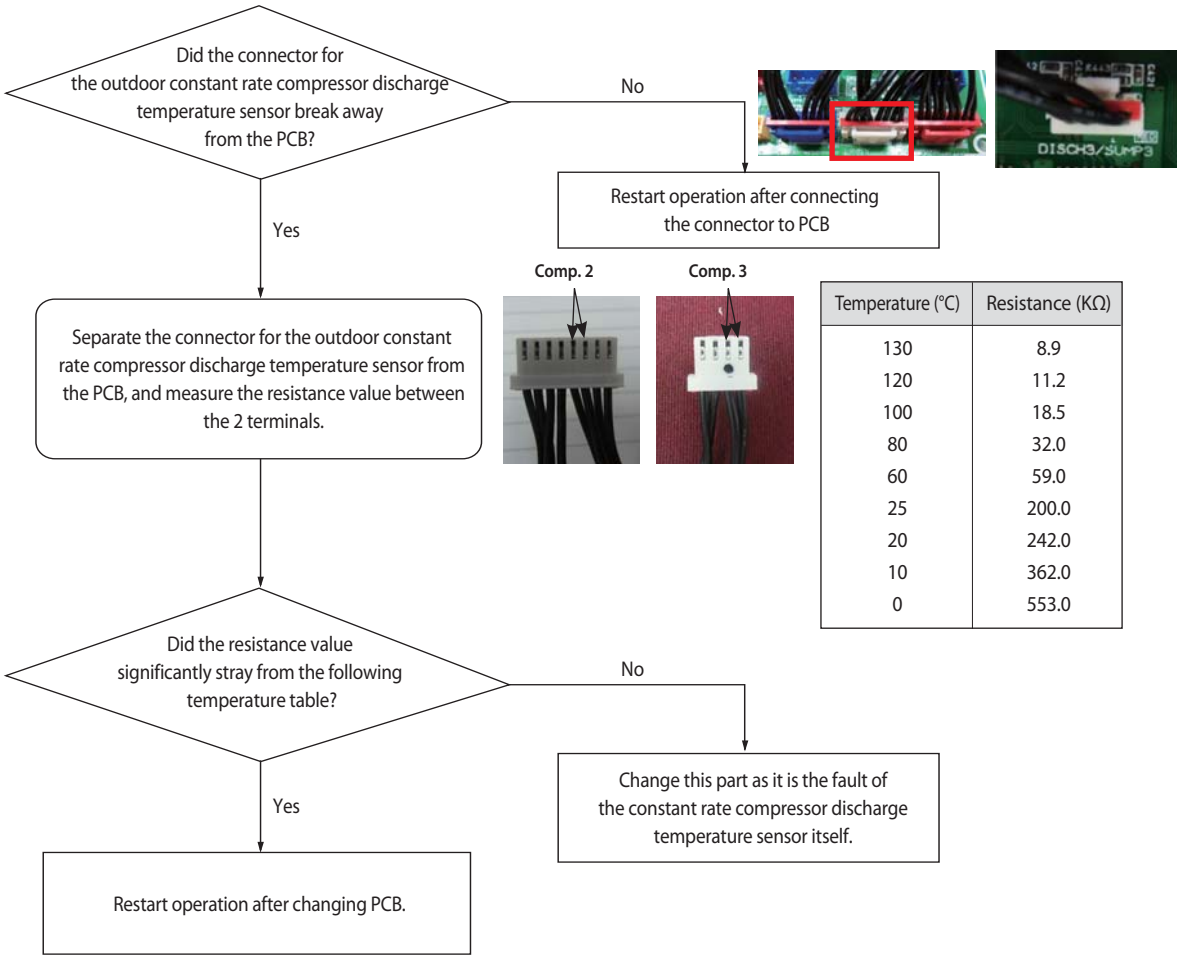

Did the connector for the outdoor digital compressor discharge temperature sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
Separate the connector for the outdoor unit discharge temperature sensor from the PCB, and measure the resistance value between the 2 terminals.
Resistance value measure part
Did the resistance value significantly stray from the following temperature table?
No
Change this part as it is the fault of the discharge temperature sensor itself.
Yes
Restart operation after changing PCB.

Temperature (°C)	Resistance (KΩ)
130	8.9
120	11.2
100	18.5
80	32.0
60	59.0
25	200.0
20	242.0
10	362.0
0	553.0

4-4-42 Constant Rate Compressor Discharge Temperature Sensor Error (OPEN/SHORT)

Outdoor Unit Display	E257, E258 (Compressor 2, Compressor 3)
Indoor Unit Display	◑(Operation) ×(Reservation) ◑(Blast) ×(Filter) ×(Defrost)
Judgment Method	• Refer to the inspection method below.
Special Cause	• Constant rate compressor discharge temperature sensor OPEN/SHORT problem

1. Inspection Method

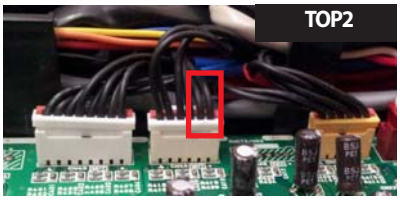

Did the connector for the outdoor constant rate compressor discharge temperature sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
Separate the connector for the outdoor constant rate compressor discharge temperature sensor from the PCB, and measure the resistance value between the 2 terminals.
Comp. 2
Comp. 3
Did the resistance value significantly stray from the following temperature table?
No
Change this part as it is the fault of the constant rate compressor discharge temperature sensor itself.
Yes
Restart operation after changing PCB.

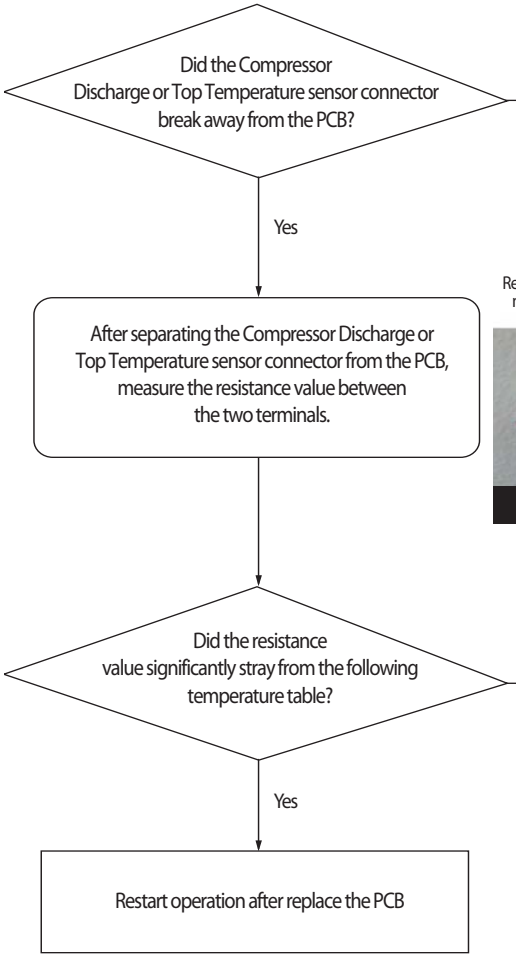
Temperature (°C)	Resistance (KΩ)
130	8.9
120	11.2
100	18.5
80	32.0
60	59.0
25	200.0
20	242.0
10	362.0
0	553.0

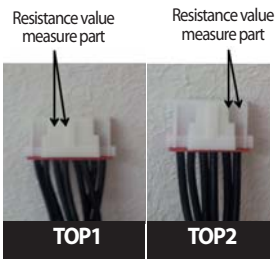
4-4-43 Compressor Discharge or Top 1/2 Temperature sensor error

Outdoor unit display	E262 (Compressor 1 Discharge) E263 (Compressor 2 Discharge) E266 (Compressor 1 Top) E267 (Compressor 2 Top)
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Compressor Discharge or Top Temperature sensor defective. (Open/Short)

1. Cause of problem




Did the Compressor Discharge or Top Temperature sensor connector break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
After separating the Compressor Discharge or Top Temperature sensor connector from the PCB, measure the resistance value between the two terminals.
Did the resistance value significantly stray from the following temperature table?
No
Replace this part as it is the defective of the Compressor Discharge or Top Temperature sensor itself.
Yes
Restart operation after replace the PCB



Temperature (°C)	Resistance (KΩ)
130	8.9
120	11.2
100	18.5
80	32.0
60	59.0
25	200.0
20	242.0
10	362.0
0	553.0

4-4-44 E265 : Dislocation error of Compressor SUMP Temperature (oil temperature) Sensor

Outdoor unit display	E265 (digital compressor or fixed compressor 1)
Indoor unit display	×(Operation) ◑(Timer) ◑(Fan) ◑(Filter) ×(Defrost)
Criteria	• Refer to how to determine below
Cause of problem	• Sump (oil) temperature sensor dislocation error

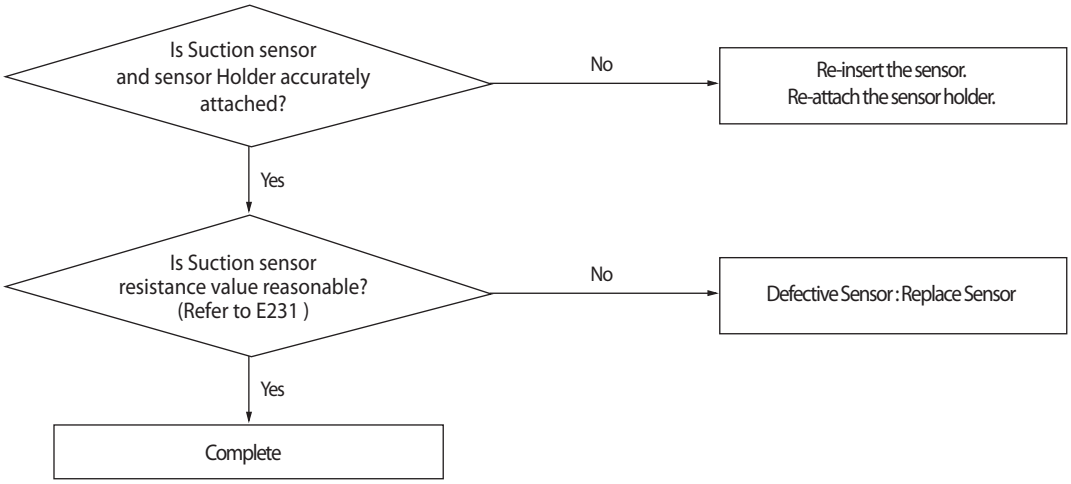
1. How to diagnose
   1) If the Sump temperature right before the start of compressor = Tsump.ini, current compressor's SUMP temp =Tsump. real,
   When the difference between Tsump.ini and Tsump.real is an absolute value so that it cannot be more than 2˚C,
   In other words, the condition of Tsump.real-Tsump.ini<2˚C has been satisfied for 60 minutes since a compressor started, it is diagnosed as an error.
   After 60 minutes of compressor operation, there will be no Sump sensor dislocation detection.

2. How to check
   1) Check if a sensor of the relevant compressor has been dislocated in accordance with error code, assemble and correct the error.

4-4-45 E269 : Suction Temperature sensor breakaway error

Outdoor unit display	E269
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· If the suction temperature right before operating the Comp, when the operating order is highest, is set at Tsuc, ini, and the suction temperature of the current Comp is set at Tsuc, real, it is considered to have an error if the condition of Tsuc, real < Tsuc,ini| < 2℃ is maintained for 30 minutes.
Cause of problem	· Suction temperature sensor breakaway/defective.

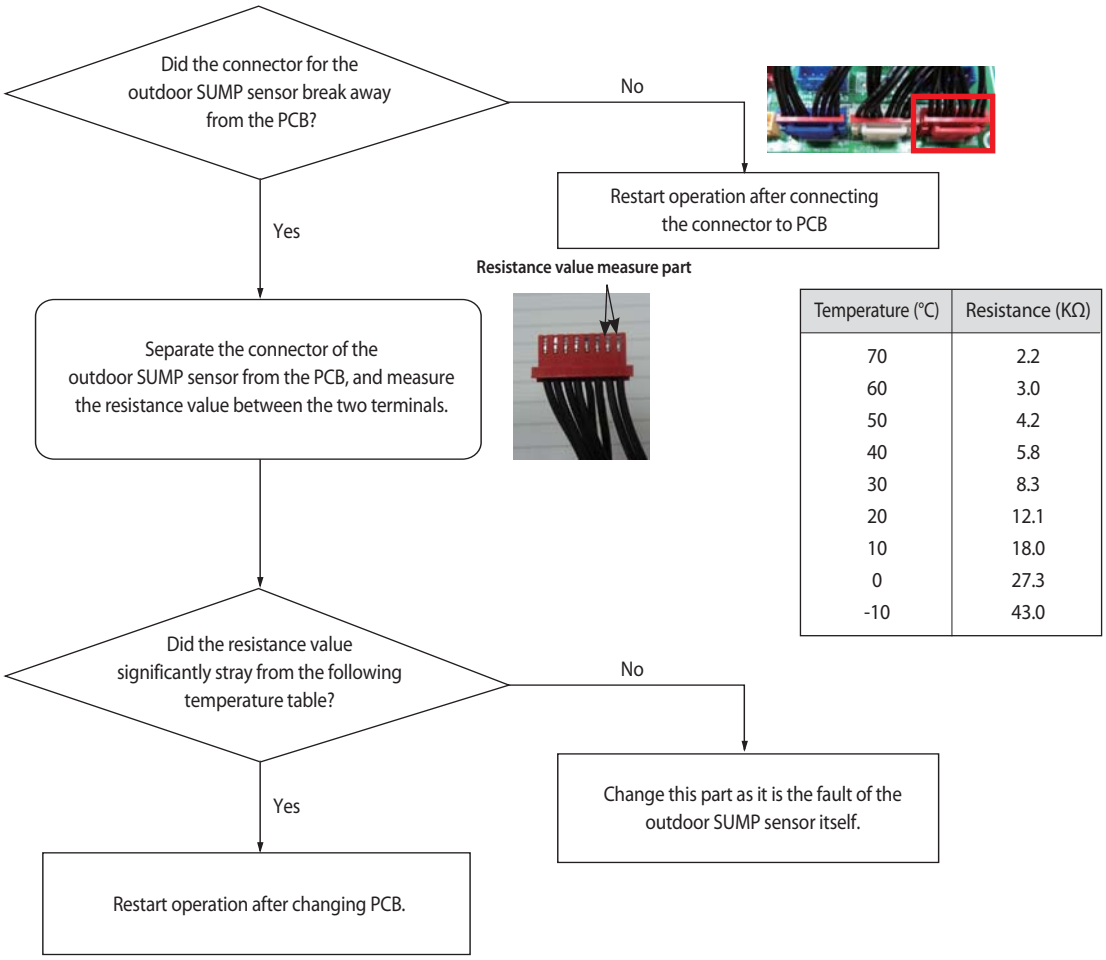
1. Cause of problem



4-4-46 SUMP Temperature Sensor Error (OPEN/SHORT)

Outdoor Unit Display	E271
Indoor Unit Display	◑(Operation) ×(Reservation) ◑(Blast) ×(Filter) ×(Defrost)
Judgment Method	• Refer to the judgment method below.
Special Cause	• Disconnection or breakdown of relevant sensor

1. Inspection Method


Did the connector for the outdoor SUMP sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
Resistance value measure part
Separate the connector of the outdoor SUMP sensor from the PCB, and measure the resistance value between the two terminals.
Did the resistance value significantly stray from the following temperature table?
No
Change this part as it is the fault of the outdoor SUMP sensor itself.
Yes
Restart operation after changing PCB.

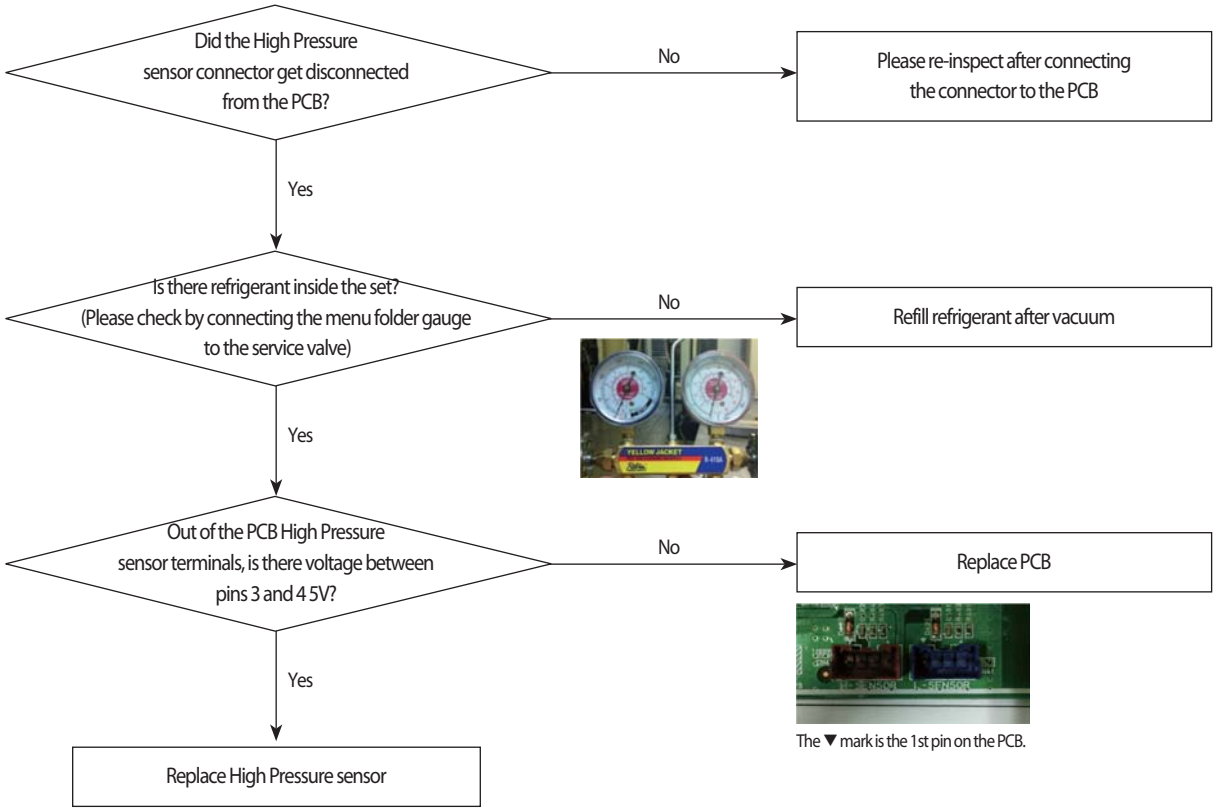
Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-47 High Pressure sensor error (Open/Short)

Outdoor unit display	E291
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

1. High Pressure sensor Open/Short error determination method
   1) Identifies from when power is supplied or 2 minutes after RESET, and only when set is stopped.
   2) An Open/Short error will occur if the input voltage standard range of 0.5V ~ 4.95V is exceeded.

2. Inspection Method

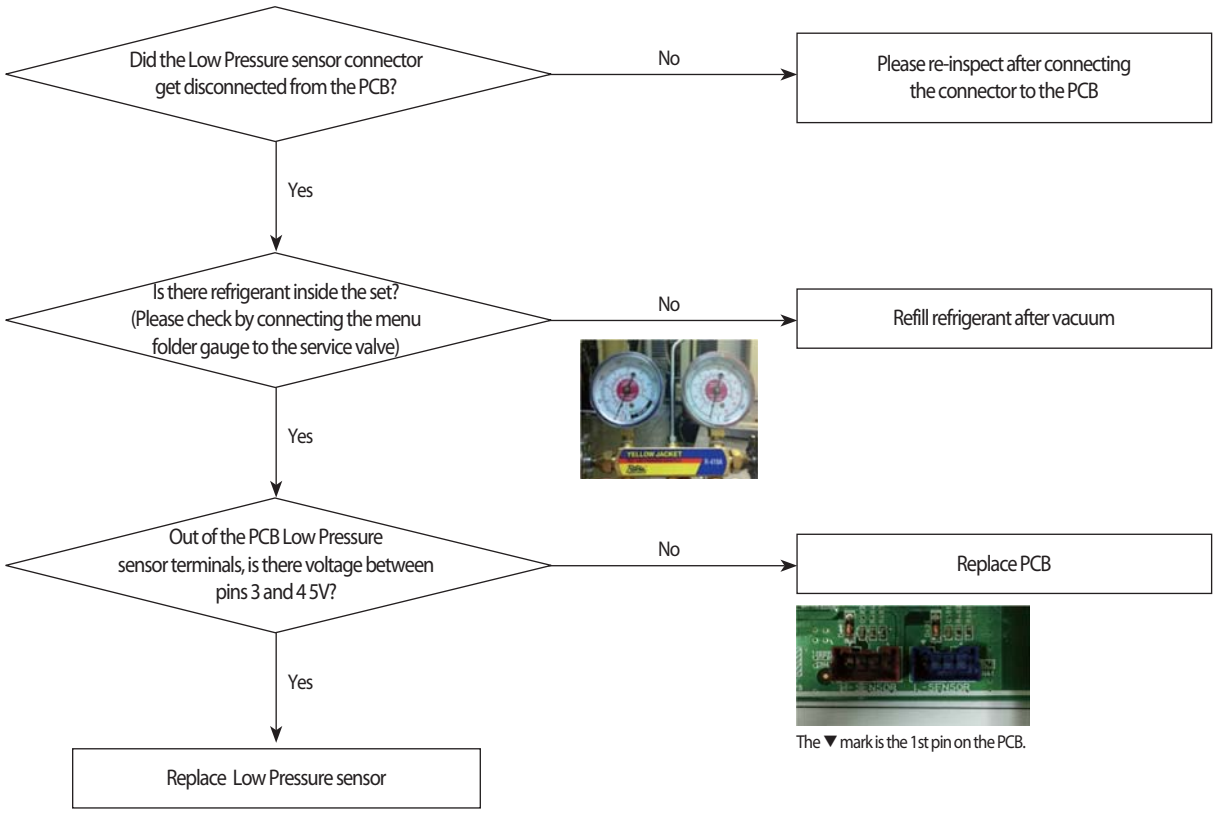

Did the High Pressure sensor connector get disconnected from the PCB?
No
Please re-inspect after connecting the connector to the PCB
Yes
Is there refrigerant inside the set? (Please check by connecting the menu folder gauge to the service valve)
No
Refill refrigerant after vacuum
Yes
Out of the PCB High Pressure sensor terminals, is there voltage between pins 3 and 4 5V?
No
Replace PCB
Yes
Replace High Pressure sensor
The ▼ mark is the 1st pin on the PCB.

4-4-48 Low Pressure sensor error (Open/Short)

Outdoor unit display	E296
Indoorunit display	◑ (Operation) ◑ (Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

1. Low Pressure sensor Open/Short error determination method
   1) Identifies from when power is supplied or 2 minutes after RESET, and only when set is stopped.
   2) An Open/Short error will occur if the input voltage standard range of 0.5V ~ 4.95V is exceeded.

2. Inspection Method

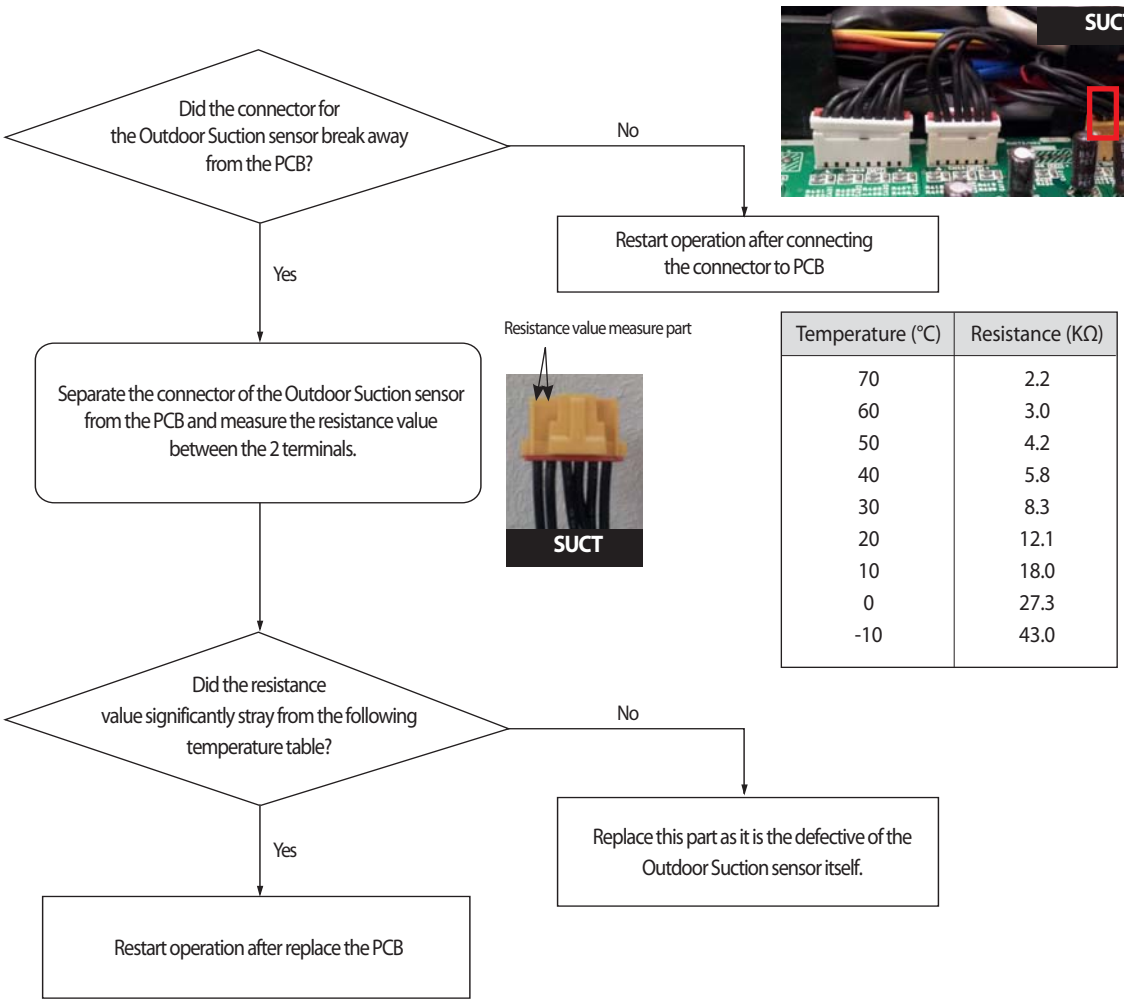

Did the Low Pressure sensor connector get disconnected from the PCB?
No
Please re-inspect after connecting the connector to the PCB
Yes
Is there refrigerant inside the set? (Please check by connecting the menu folder gauge to the service valve)
No
Refill refrigerant after vacuum
Yes
Out of the PCB Low Pressure sensor terminals, is there voltage between pins 3 and 4 5V?
No
Replace PCB
Yes
Replace Low Pressure sensor

The ▼ mark is the 1st pin on the PCB.

4-4-49 Suction Temperature sensor error (Open/Short)

Outdoor unit display	E308
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

1. Cause of problem

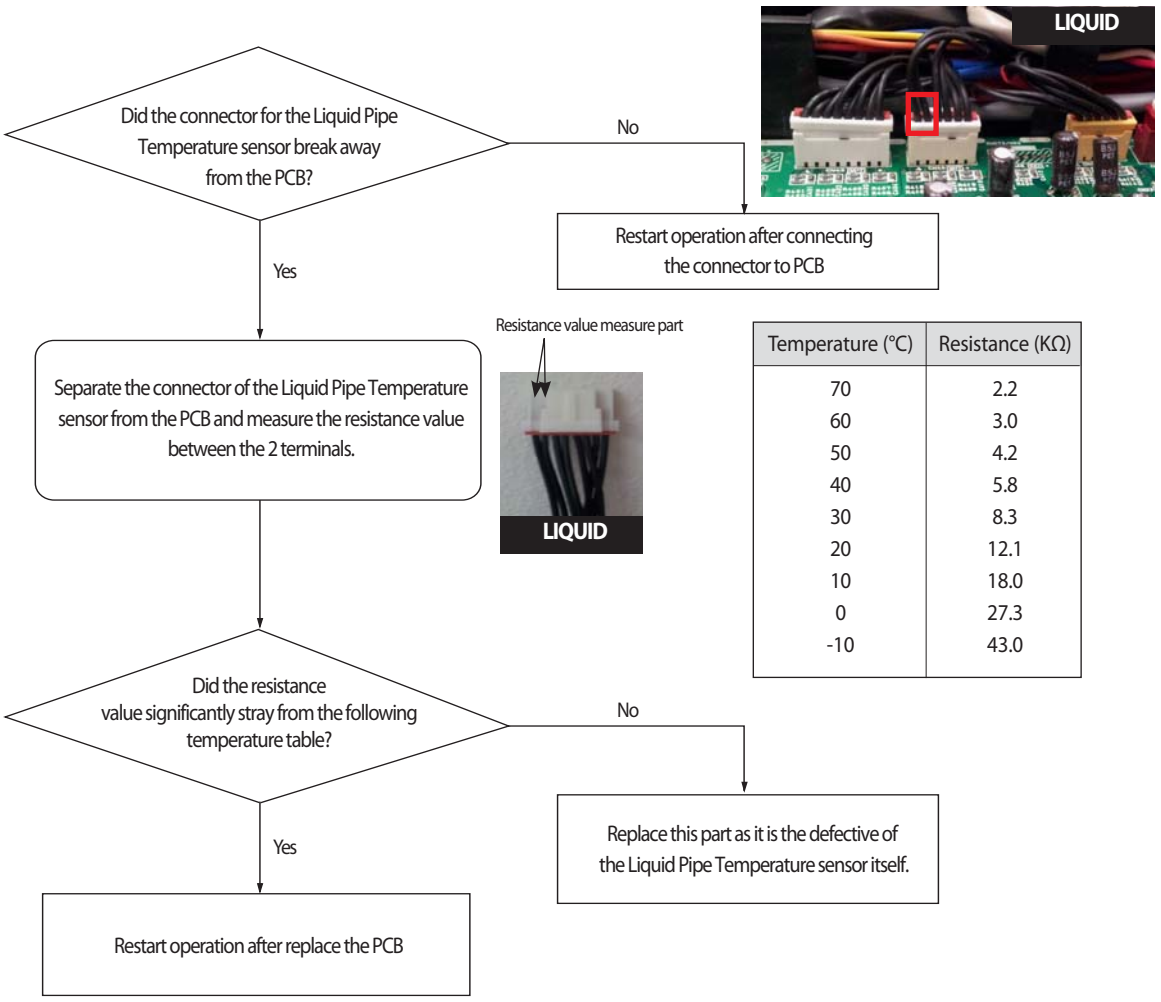

Did the connector for the Outdoor Suction sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
Separate the connector of the Outdoor Suction sensor from the PCB and measure the resistance value between the 2 terminals.
Did the resistance value significantly stray from the following temperature table?
No
Replace this part as it is the defective of the Outdoor Suction sensor itself.
Yes
Restart operation after replace the PCB
SUCT
Resistance value measure part
SUCT

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-50 Liquid Pipe Temperature sensor error (Open/Short)

Outdoor unit display	E311
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

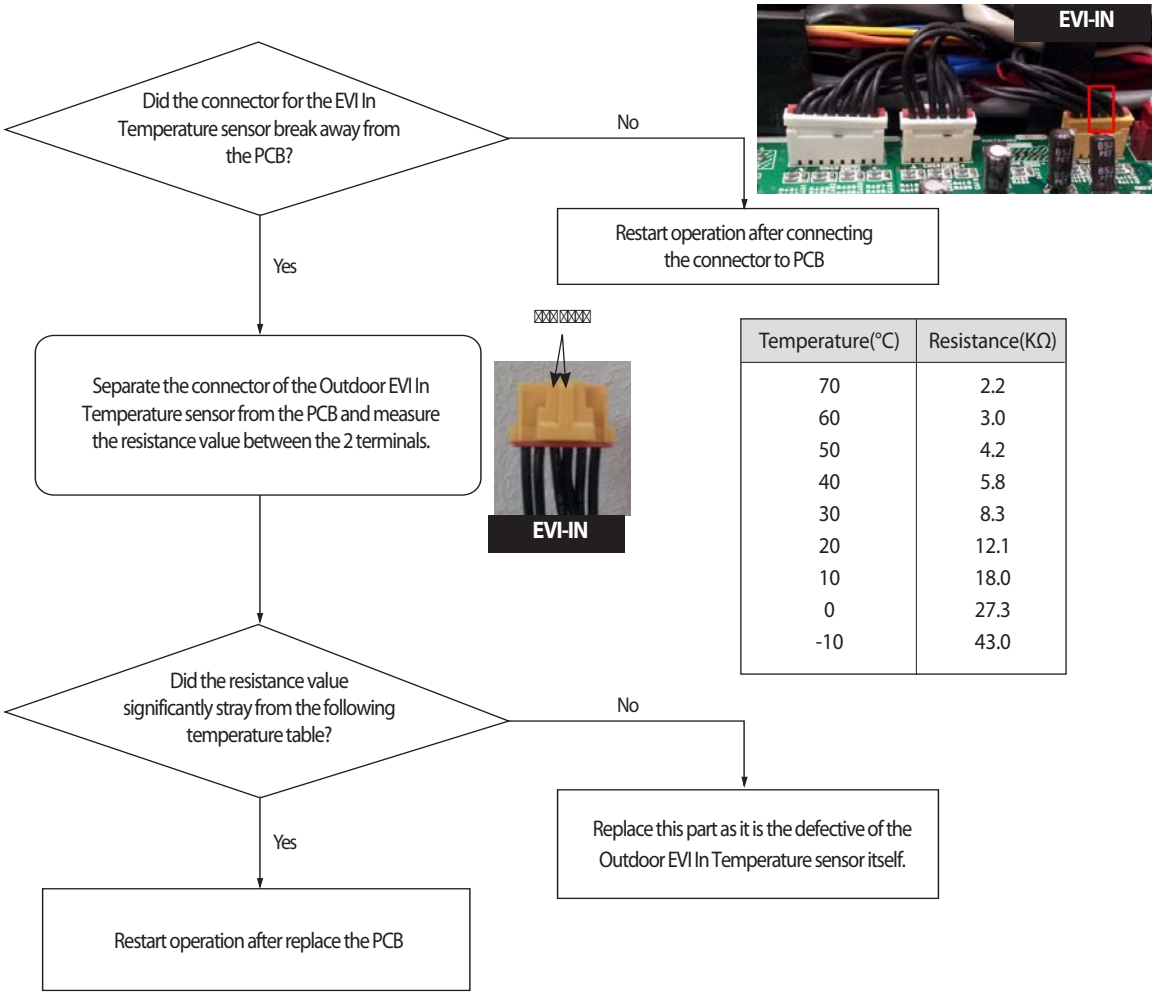
1. Cause of problem


Did the connector for the Liquid Pipe Temperature sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
LIQUID
Yes
Separate the connector of the Liquid Pipe Temperature sensor from the PCB and measure the resistance value between the 2 terminals.
Resistance value measure part
LIQUID
Temperature (°C) Resistance (KΩ)
70 2.2
60 3.0
50 4.2
40 5.8
30 8.3
20 12.1
10 18.0
0 27.3
-10 43.0
Did the resistance value significantly stray from the following temperature table?
No
Replace this part as it is the defective of the Liquid Pipe Temperature sensor itself.
Yes
Restart operation after replace the PCB

4-4-51 EVI In Temperature sensor error (Open/Short)

Outdoor unit display	E321
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

1. Cause of problem

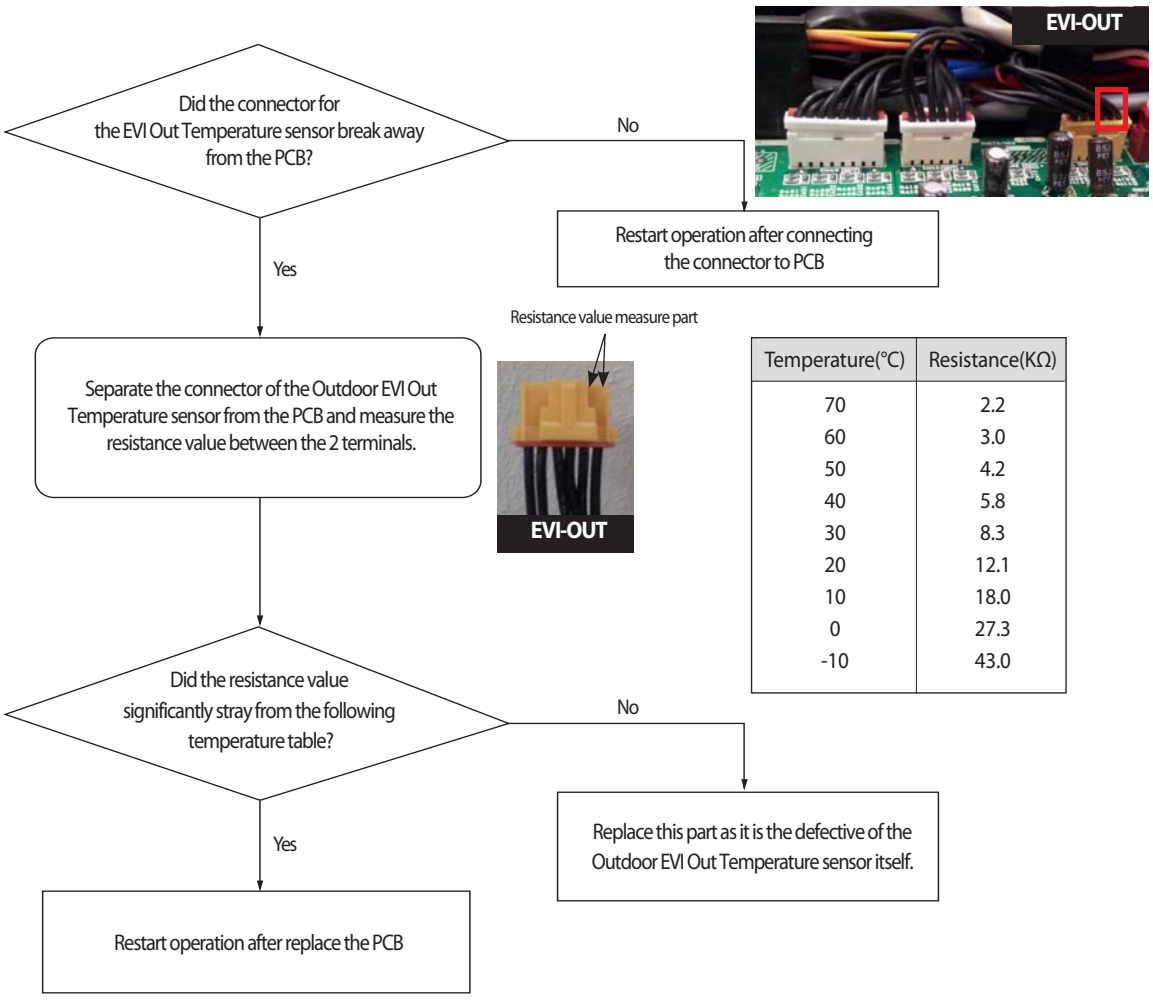

Did the connector for the EVI In Temperature sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
Separate the connector of the Outdoor EVI In Temperature sensor from the PCB and measure the resistance value between the 2 terminals.
EVI-IN
EVI-IN
Did the resistance value significantly stray from the following temperature table?
No
Replace this part as it is the defective of the Outdoor EVI In Temperature sensor itself.
Yes
Restart operation after replace the PCB

Temperature(°C)	Resistance(KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-52 EVI Out Temperature sensor error (Open/Short)

Outdoor unit display	E322
Indoorunit display	◑ (Operation) ×(Reservation) ◑ (Blast) ×(Filter) ×(Defrost)
Judgment Method	· Refer to the judgment method below.
Cause of problem	· Disconnection or breakdown of relevant sensor.

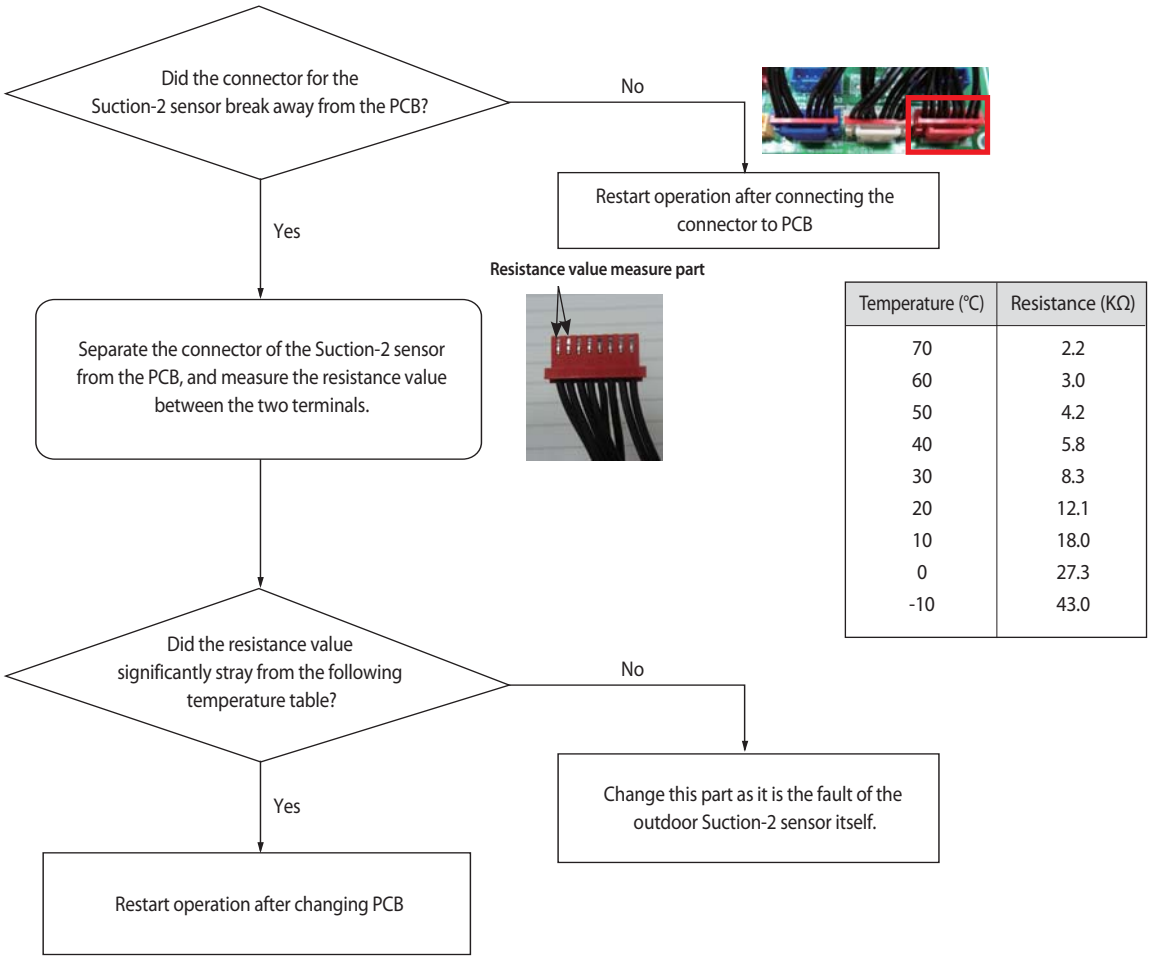
1. Cause of problem


Did the connector for the EVI Out Temperature sensor break away from the PCB?
No
Yes
EVI-OUT
Restart operation after connecting the connector to PCB
Resistance value measure part
Separate the connector of the Outdoor EVI Out Temperature sensor from the PCB and measure the resistance value between the 2 terminals.
EVI-OUT
Temperature(°C) Resistance(KΩ)
70 2.2
60 3.0
50 4.2
40 5.8
30 8.3
20 12.1
10 18.0
0 27.3
-10 43.0
Did the resistance value significantly stray from the following temperature table?
No
Yes
Replace this part as it is the defective of the Outdoor EVI Out Temperature sensor itself.
Restart operation after replace the PCB

4-4-53 Suction-2 Temperature Sensor Error (OPEN/SHORT)

Outdoor Unit Display	E323
Indoor Unit Display	◑(Operation) ×(Reservation) ◑(Blast) ×(Filter) ×(Defrost)
Judgment Method	• Refer to the judgment method below.
Special Cause	• Disconnection or breakdown of relevant sensor

1. Inspection Method

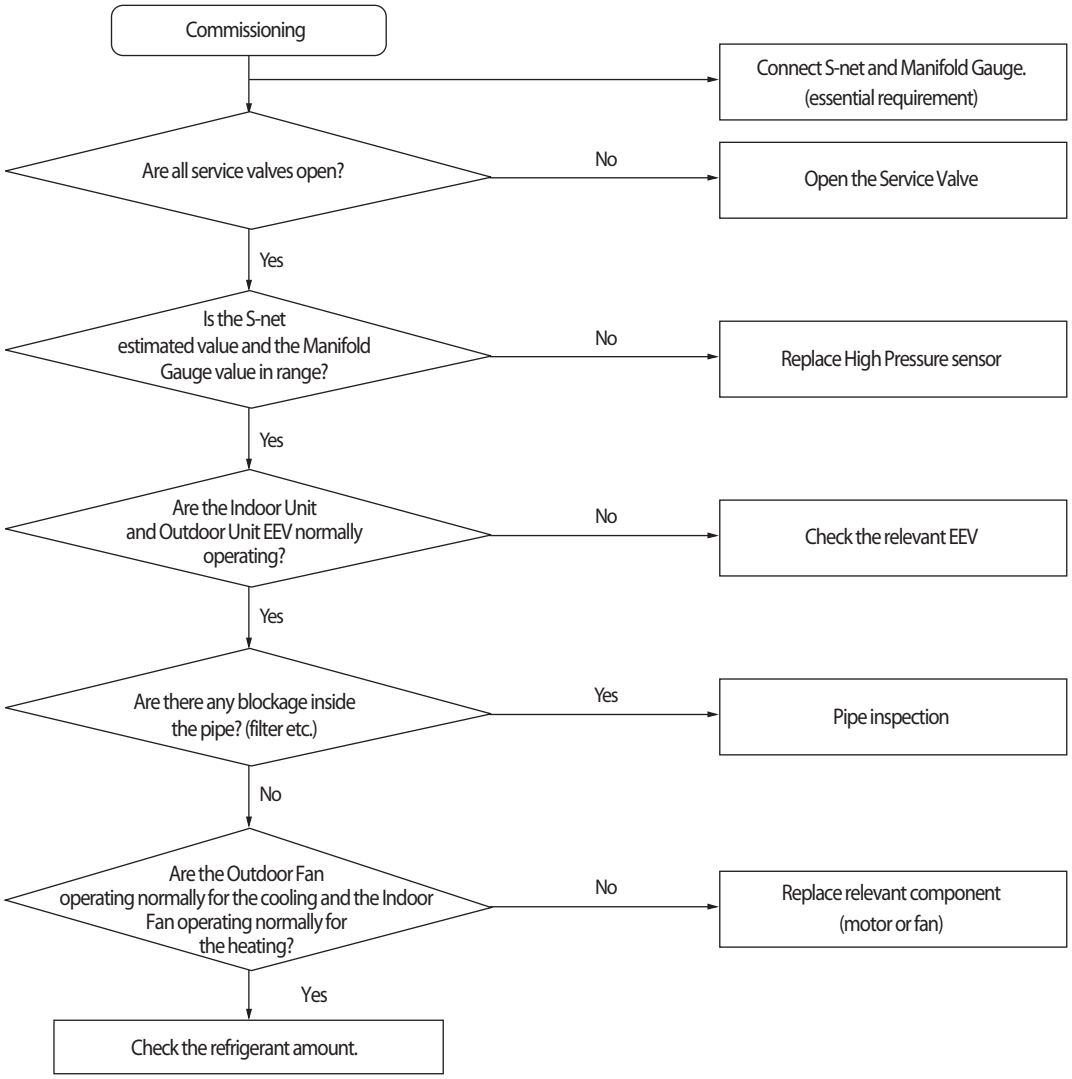

Did the connector for the Suction-2 sensor break away from the PCB?
No
Restart operation after connecting the connector to PCB
Yes
Separate the connector of the Suction-2 sensor from the PCB, and measure the resistance value between the two terminals.
Resistance value measure part
Did the resistance value significantly stray from the following temperature table?
No
Change this part as it is the fault of the outdoor Suction-2 sensor itself.
Yes
Restart operation after changing PCB

Temperature (°C)	Resistance (KΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

4-4-54 E407 : Comp. Down due to High Pressure Protection Control

Outdoor unit display	E407
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	**Value of the high pressure sensor is detected at 40kg/cm^2 or more**
Cause of problem	**<Cooling Operation>** · Outdoor unit fan motor problem (constrained, defective) · Motor driver defective or wire is cut · Outdoor heat exchanger is contaminated. · Service valve locked/Fill refrigerant **<Heating Operation>** · Outdoor unit fan motor problem (constrained, defective) · Motor driver defective or wire is cut · Service valve locked/Excessive refrigerant

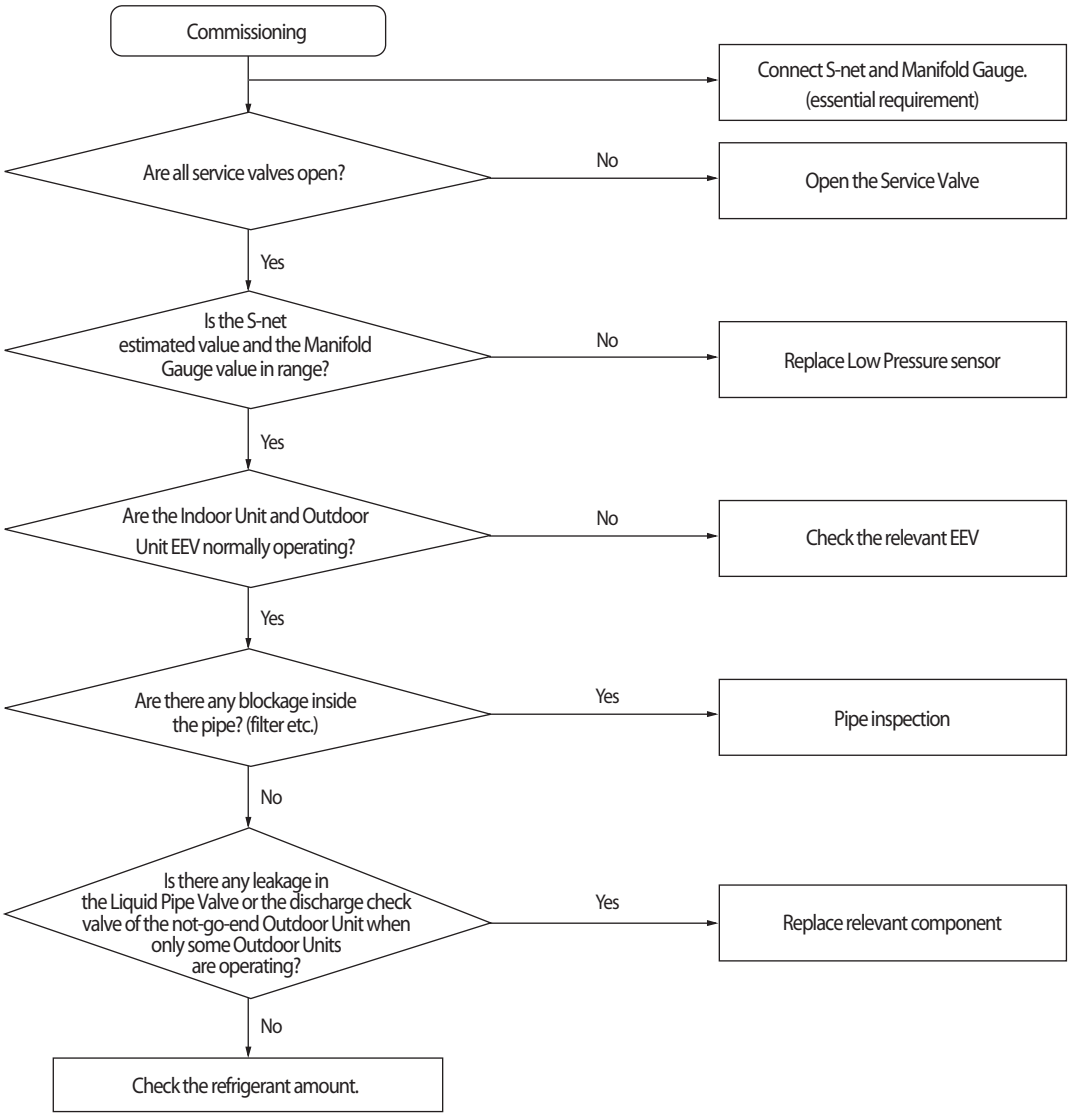
1. Cause of problem



4-4-55 E410 : Comp. Down due to Low Pressure Protection Control

Outdoor unit display	E410
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· Inspection when the value of low pressure sensor is 0.8kg//cm², or less for air conditioning and 0.6kg//cm² for heating
Cause of problem	· Refrigerant shortage · Electronic expansion valve blocked · Service valve blocked · Low pressure sensor defective · Leakage of compressor discharge check valve of not-go-end outdoor unit · Error may be found when used in temperature range outside the conditions of use (Operating outside temperature at -20℃ or less for heating and operating outside temperature at -5℃ or less for Cooling)

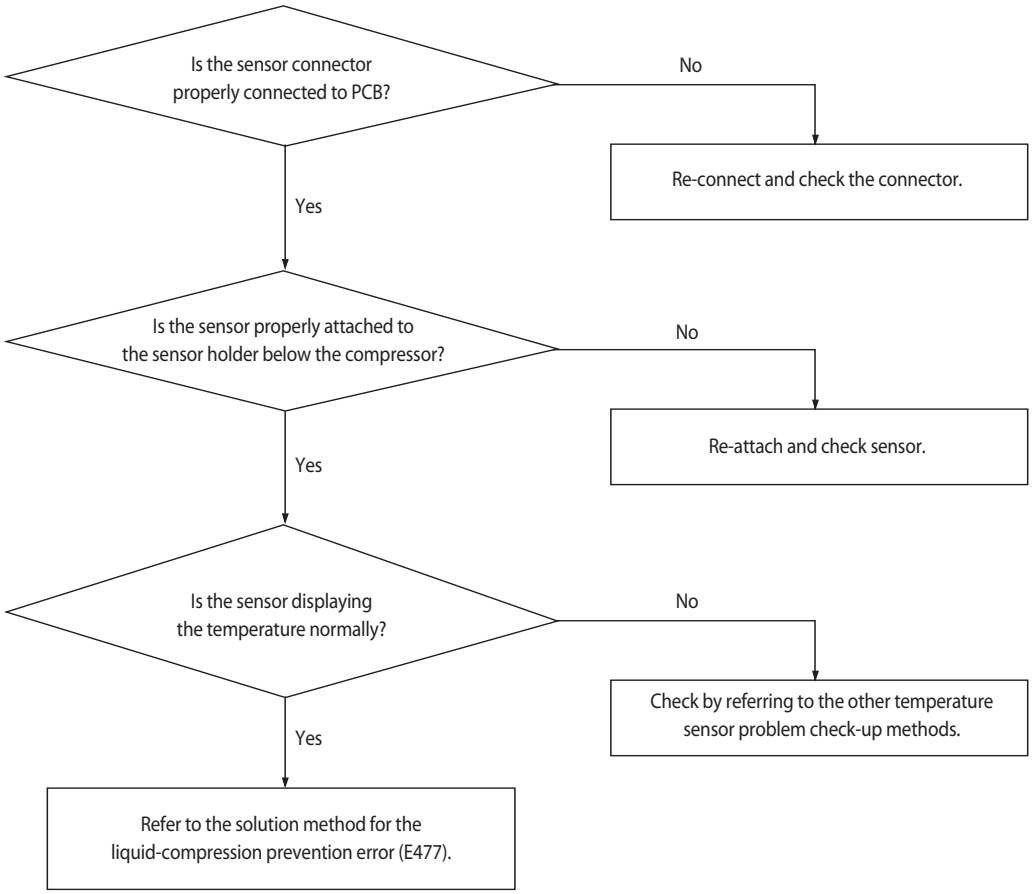
1. Cause of problem


Commissioning
Connect S-net and Manifold Gauge. (essential requirement)
Are all service valves open?
No
Open the Service Valve
Yes
Is the S-net estimated value and the Manifold Gauge value in range?
No
Replace Low Pressure sensor
Yes
Are the Indoor Unit and Outdoor Unit EEV normally operating?
No
Check the relevant EEV
Yes
Are there any blockage inside the pipe? (filter etc.)
Yes
Pipe inspection
No
Is there any leakage in the Liquid Pipe Valve or the discharge check valve of the not-go-end Outdoor Unit when only some Outdoor Units are operating?
Yes
Replace relevant component
No
Check the refrigerant amount.

4-4-56 Sump Sensor Error Due to Protection Control

Outdoor Unit Display	E413
Indoor Unit Display	×(Operation) ◑(Reservation) ◑(Blast) ◑(Filter) ×(Defrost)
Judgment Method	• Maintain sump temperature of 95°C or more for five minutes
Special Cause	• Compressor loading faulty/sump temperature sensor faulty

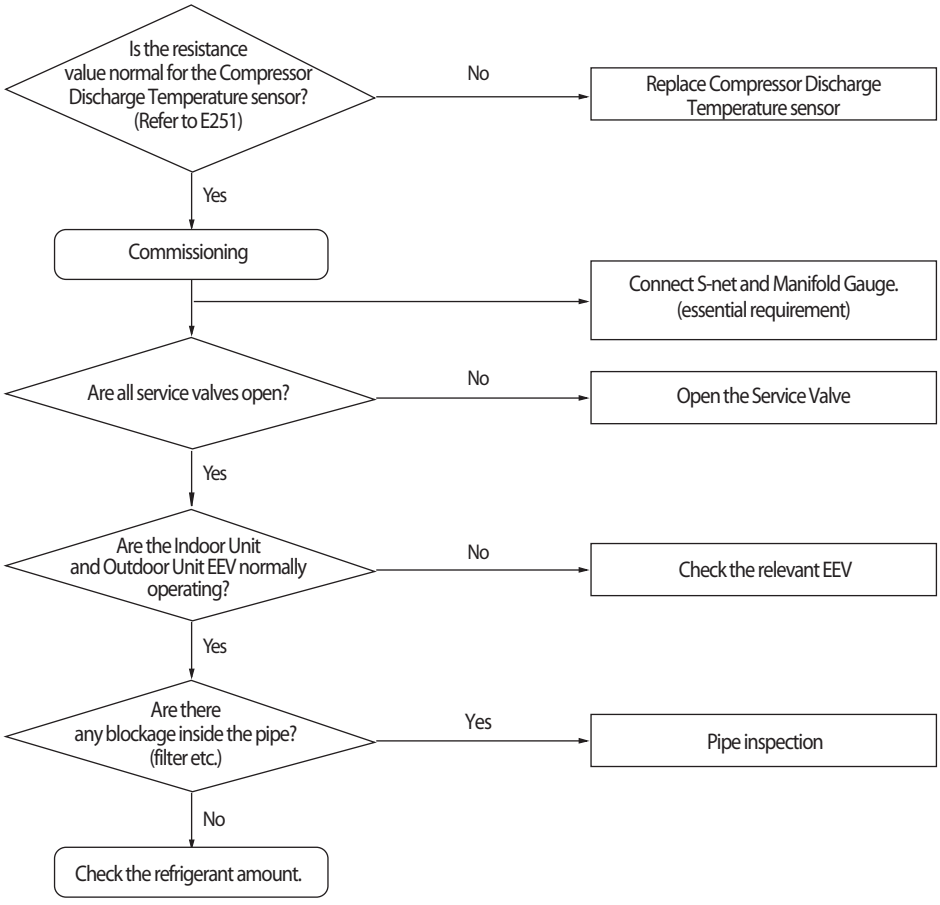
1. Inspection Method


Is the sensor connector properly connected to PCB?
No
Re-connect and check the connector.
Yes
Is the sensor properly attached to the sensor holder below the compressor?
No
Re-attach and check sensor.
Yes
Is the sensor displaying the temperature normally?
No
Check by referring to the other temperature sensor problem check-up methods.
Yes
Refer to the solution method for the liquid-compression prevention error (E477).

4-4-57 E416 : Comp. Down due to Compressor Discharge Temperature sensor

Outdoor unit display	E416
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· When value of compressor discharge temperature sensor is checked at 120℃ or more
Cause of problem	· Refrigerant shortage · Electronic expansion valve is blocked. · Service valve blocked · Defective discharge temperature sensor · Blocked pipe and defective · Leakage of compressor discharge check valve of not-go-end outdoor unit

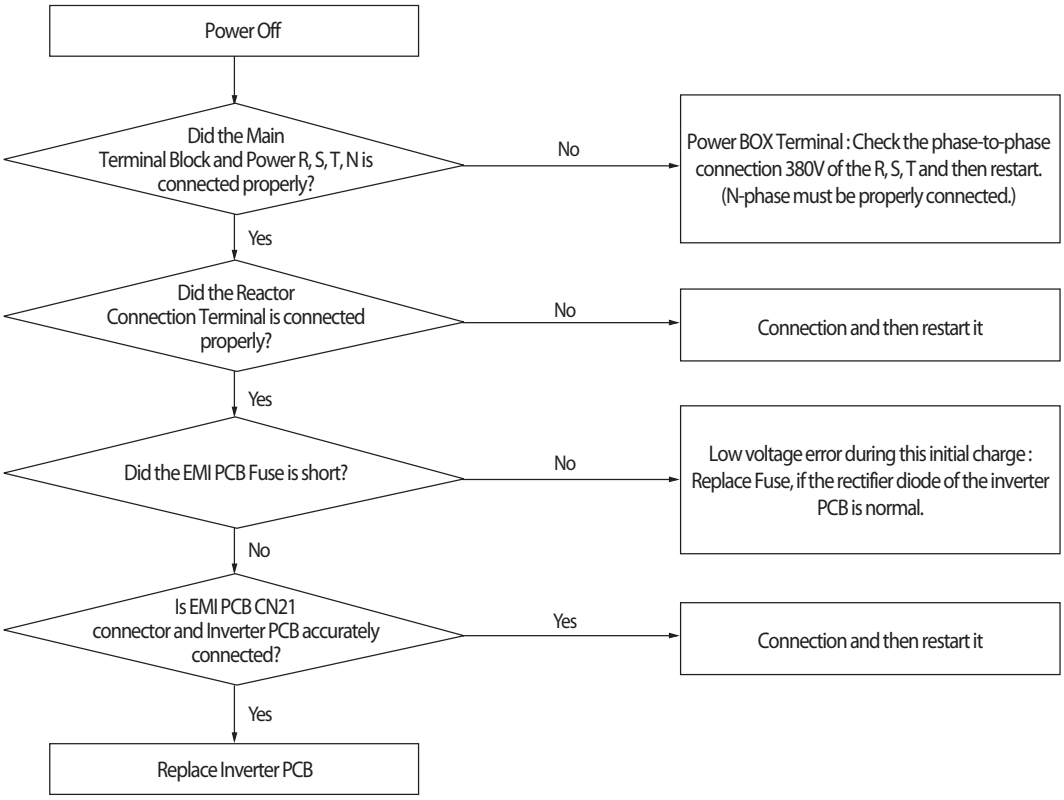
1. Cause of problem



4-4-58 3-phase Input Wiring error

Outdoor unit display	E425
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	. When turn on the power and check the status of the power from the inverter. If the phase does not connect the power(no phase) : E425 or E466 (E366) is displayed (Air conditioner to maintain the normal state.) However) N-phase must be properly connected.
Cause of problem	· Check the input wiring · EMI Fuse short

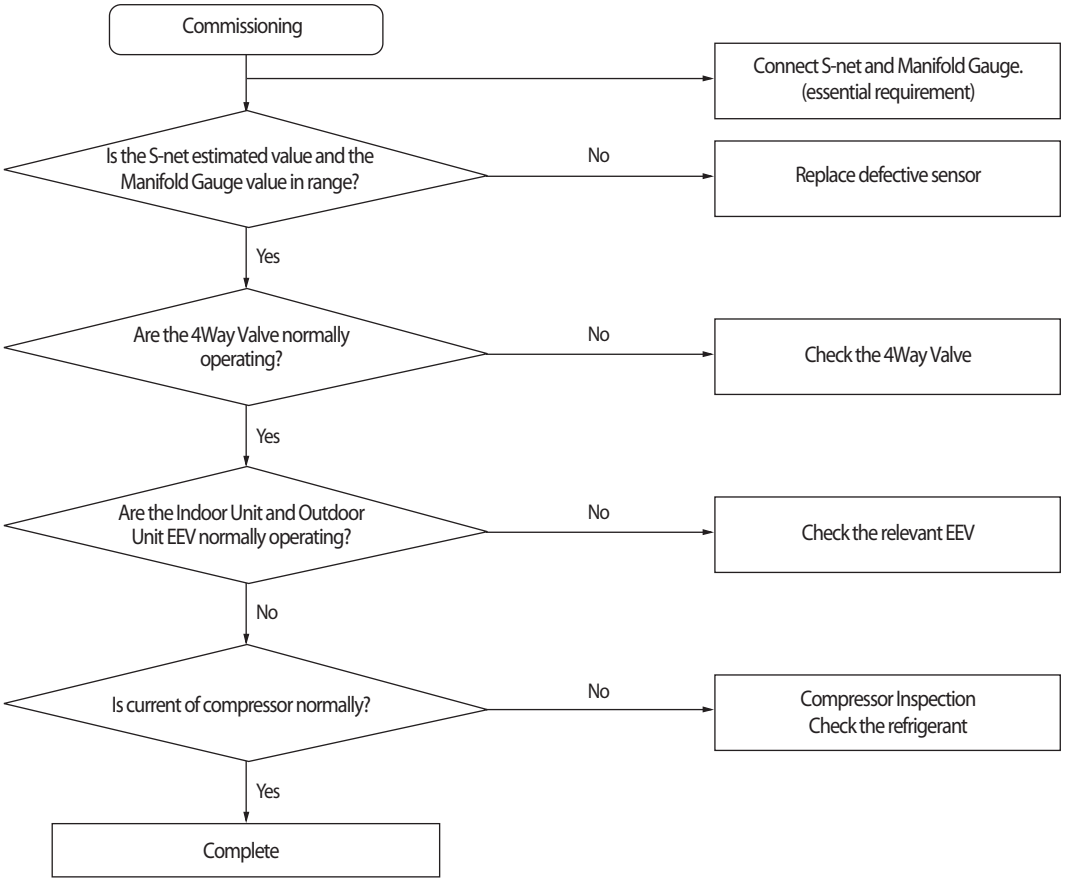
1. Cause of problem


Power Off
Did the Main Terminal Block and Power R, S, T, N is connected properly?
No
Power BOX Terminal : Check the phase-to-phase connection 380V of the R, S, T and then restart. (N-phase must be properly connected.)
Yes
Did the Reactor Connection Terminal is connected properly?
No
Connection and then restart it
Yes
Did the EMI PCB Fuse is short?
No
Low voltage error during this initial charge : Replace Fuse, if the rectifier diode of the inverter PCB is normal.
No
Is EMI PCB CN21 connector and Inverter PCB accurately connected?
Yes
Connection and then restart it
Yes
Replace Inverter PCB

4-4-59 E428 : Comp. Down by Compression Ratio Control

Outdoor unit display	E428
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· When compression ratio (high pressure+1)/(low pressure+1) less than 1.5 and lasts for 10 minutes or more · Differential pressure (high pressure - low pressure) less than 0.4 MPa.g and lasts for 10 minutes or more
Cause of problem	· Indoor and Outdoor EEV breakdown · 4Way Valve breakdown · High and Low pressure sensor defective · Refrigerant shortage

1. Cause of problem



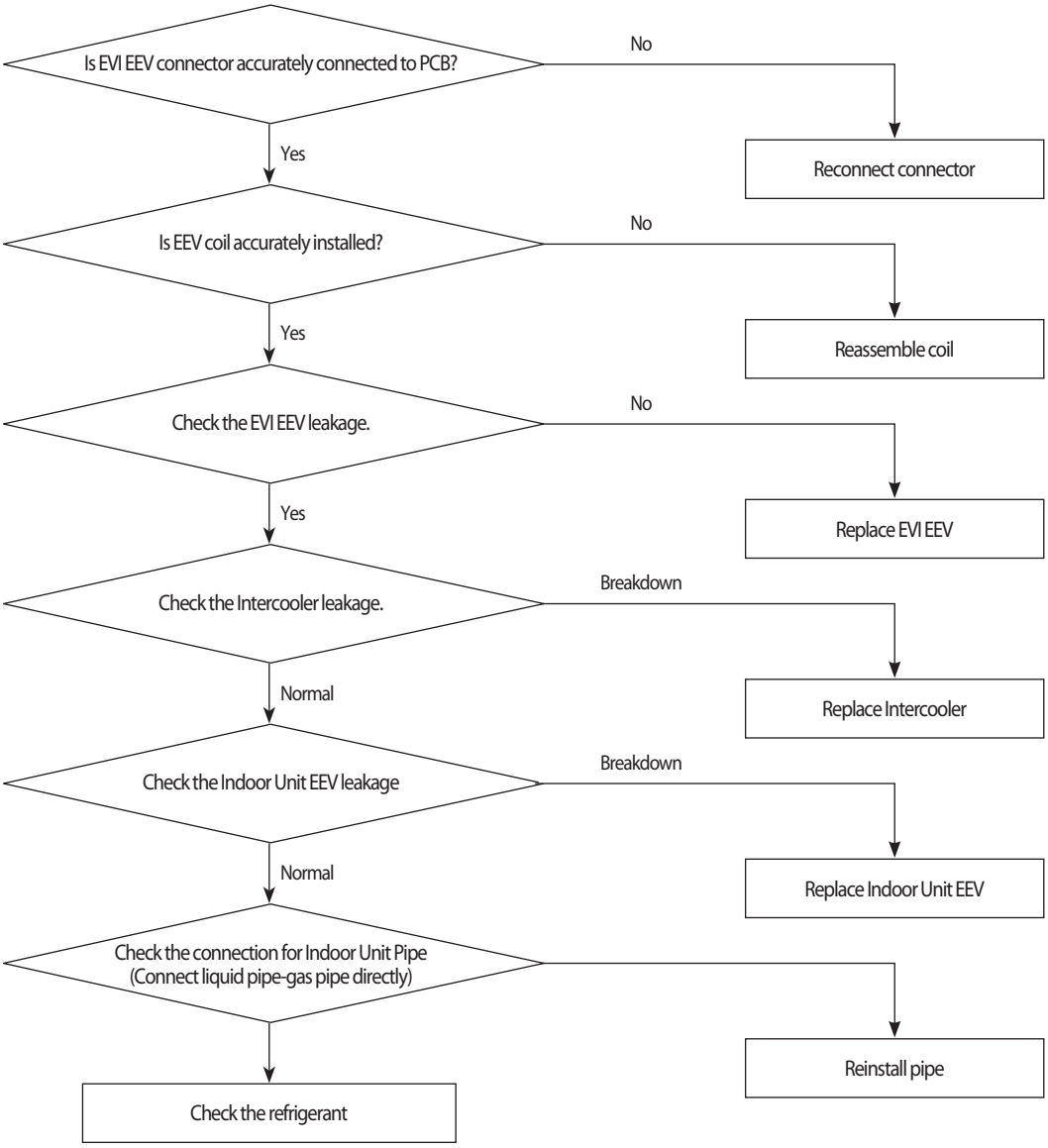
4-4-60 EVI EEV Open error

Outdoor unit display	E438
Indoorunit display	-
Judgment Method	. DSH <10 ℃, EVI Out-in <= 0℃ & frequency> 65Hz 40 minutes maintaining
Cause of problem	. EVI EEV and Intercooler leakage, excessive refrigerant amount, Outdoor Check Valve inserted opposite. . Indoor Unit EEV leakage, direct connection between Indoor Liquid Pipe and the Gas Pipe.

※ Indoor EEV leakage can be easily checked during the operation of cooling operation and during the not-go-end blast operation.
(In case it is normal, the EVA In and Out temperatures for the blast may rise.)

※ If cooling operation is operated for low temperature with excessive refrigerant amount, then the DSH may descend.

1. Cause of problem



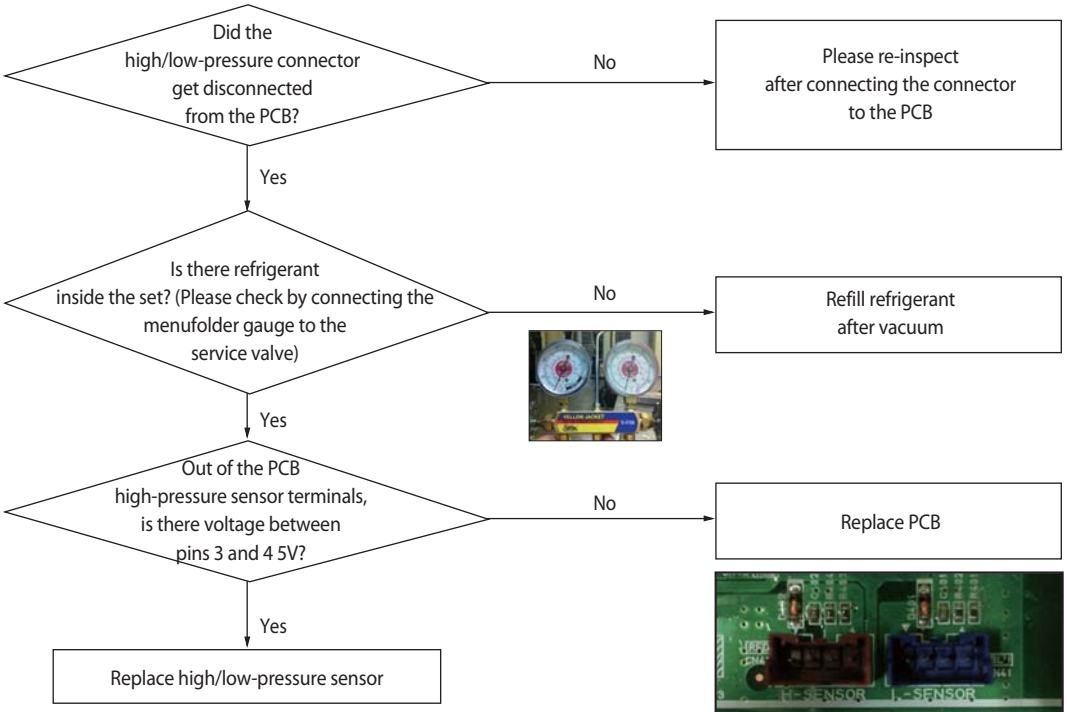
4-4-61 Refrigerant Leakage Error

Outdoor Unit Display	E439
Indoor Unit Display	×(Operation) ◑(Reservation) ◑(Blast) ◑(Filter) ×(Defrost)
Judgment Method	• Refer to the judgment method below
Special Cause	• Leakage of refrigerant, simultaneous malfunction of pressure sensor

■ Low-pressure sensor OPEN/SHORT error determination method

1. Identifies from when power is supplied or 2 minutes after RESET, and only when set is stopped.
2. An E439 error will occur if the input voltage standard ranges of 0.5V ~ 4.95V of both the high- and low-pressure sensors are exceeded.
3. Will occur if the measured value of both high- and low-pressure sensors is 1kgf/cm²G

1. Inspection method


Did the high/low-pressure connector get disconnected from the PCB?
No
Please re-inspect after connecting the connector to the PCB
Yes
Is there refrigerant inside the set? (Please check by connecting the menufolder gauge to the service valve)
No
Refill refrigerant after vacuum
Yes
Out of the PCB high-pressure sensor terminals, is there voltage between pins 3 and 4 5V?
No
Replace PCB
Yes
Replace high/low-pressure sensor
H-SENSOR
L-SENSOR

The ▼ mark is the 1st pin on the PCB.

4-4-62 E440, E442 : Prohibition of the operation of Compressor due to Ooutdoor Temperature

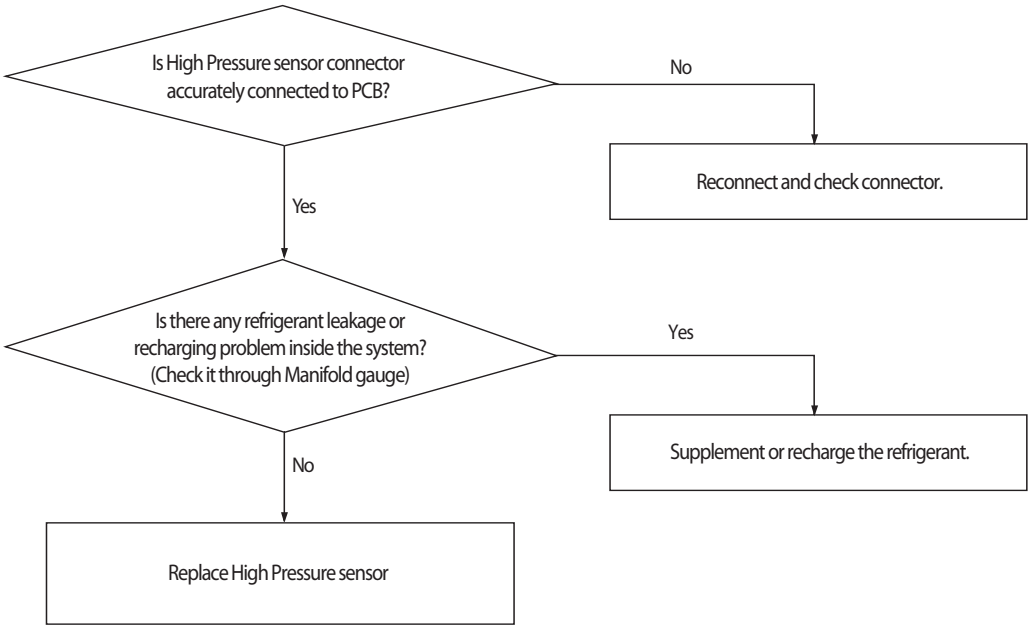
Outdoor unit display	E440 (prohibit heating operation in outdoor temperature over 30°C) E442 (prohibit heat filling operation in outdoor temperature over 15°C)
Indoor unit display	No sign
Criteria	E440 : Right before an outdoor unit starts heating operation by On signal of an indoor Remocon, the error occurs and prohibits the operation in outdoor temperature over 30°C E442 : Right before operating heat refrigerant filling mode by the K1 switch of an outdoor PCB, the error occurs and prohibits the operation in outdoor temperature over 15°C
Cause of problem	• Operation Prohibition mode by the indoor temperature limit

1. How to check
   The above error code is not caused by a product's problem but a function to protect the product by limiting the available temperature range so please refer to the usable temperature range in the product manual.
   If the error code is displayed despite a condition that does not belong to any of the above diagnosis methods, read the temperature sensor value of the outdoor inlet air with View Mode or S-net, and if the actual outdoor temperature is different, please replace the temperature sensor.

4-4-63 High Pressure Standard Not Met before Air Conditioning (Inability to Re-operate)

Outdoor unit display	E443
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	. Operation should be forbidden if High Pressure sensor value of the Main Unit before the pump down is started at 2.2kg/cm^{2}g or below for air-conditioning and 1.0kg/cm^{2}G or less for heating for three consecutive seconds. (Restarting operation is not possible, and an error displayed on the indoor unit.)
Cause of problem	· Refrigerant leakage/fault in High Pressure sensor .

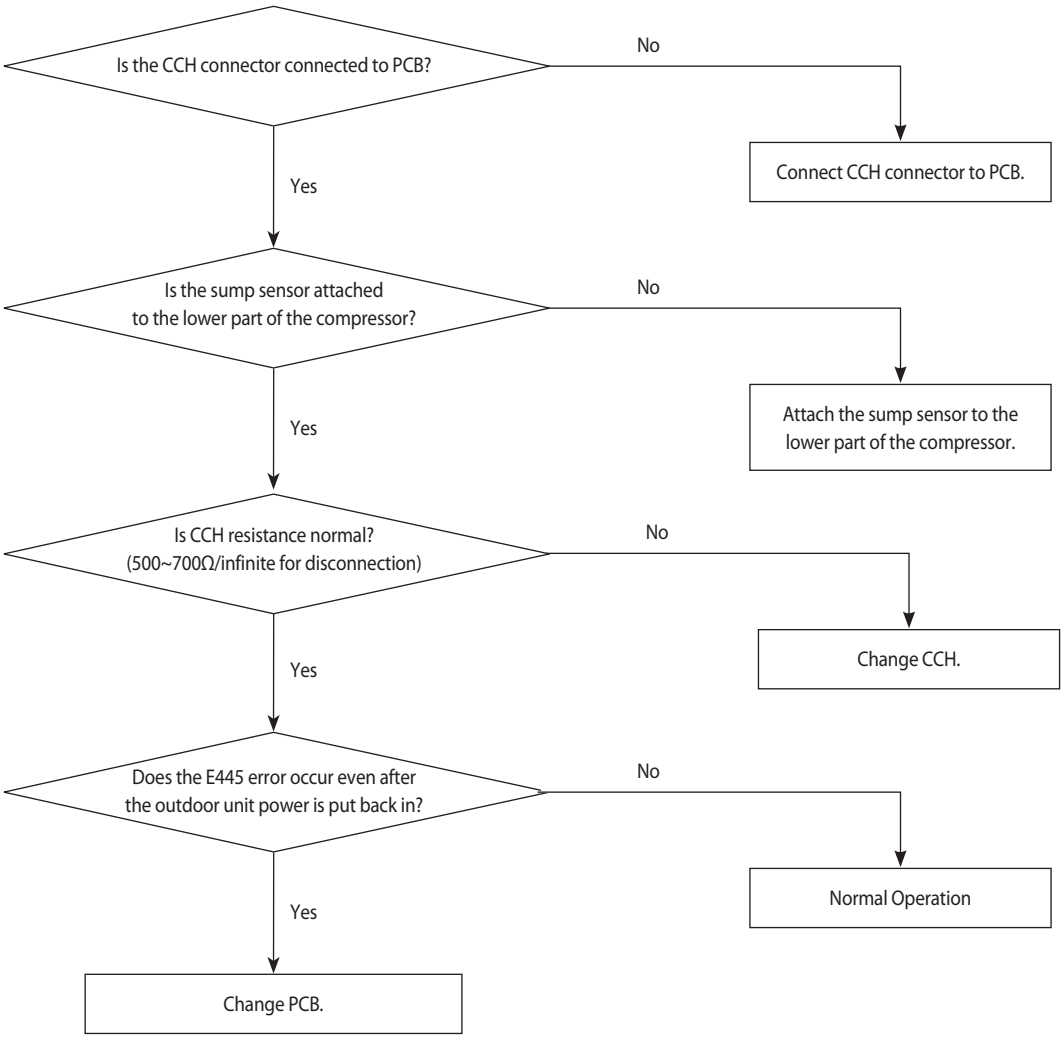
1. Cause of problem


Is High Pressure sensor connector accurately connected to PCB?
No
Reconnect and check connector.
Yes
Is there any refrigerant leakage or recharging problem inside the system? (Check it through Manifold gauge)
Yes
Supplement or recharge the refrigerant.
No
Replace High Pressure sensor

4-4-64 CCH Malfunction and Sump Sensor Miswiring Error

Outdoor Unit Display	E445
Indoor Unit Display	-
Judgment Method	• Refer to the judgment method below
Special Cause	• CCH Connector PCB is not connected /Sump sensor compressor separated / Own problem of CCH

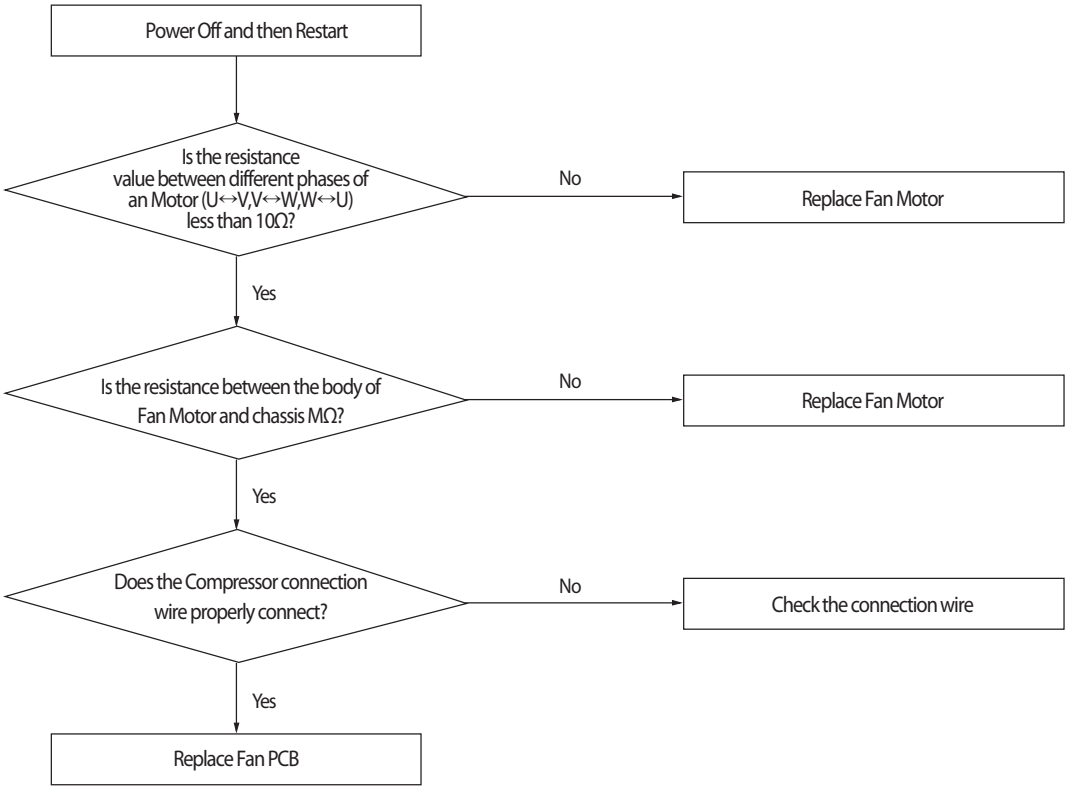
1. Judgment Method
   Tini = Sump temperature when entering the CH operation delay condition
   Tlast= Sump temperature when maintaining CH operation delay for two hours
   Outside Air Temperature Sensor Value: Outside air temperature when maintaining CH operation delay for two hours
   ① Tlast – Tini < 2℃
   ② Tlast < Outside Air Temperature Sensor Value + 2℃
   ③ Outside Air Temperature Sensor Value < 30℃
   If ① , ② and ③ are satisfied at the same time, then display E445.


Is the CCH connector connected to PCB?
No
Connect CCH connector to PCB.
Yes
Is the sump sensor attached to the lower part of the compressor?
No
Attach the sump sensor to the lower part of the compressor.
Yes
Is CCH resistance normal? (500~700Ω/infinite for disconnection)
No
Change CCH.
Yes
Does the E445 error occur even after the outdoor unit power is put back in?
No
Normal Operation
Yes
Change PCB.

4-4-65 Fan starting error

Outdoor unit display	E446 (FAN PCB(FAN1)) E346 (FAN PCB(FAN2))
Judgment Method	· Startup, and then if the speed increase is not normally. · Detected by H/W or S/W
Cause of problem	· Compressor connection error · Defective Compressor · Defective PCB

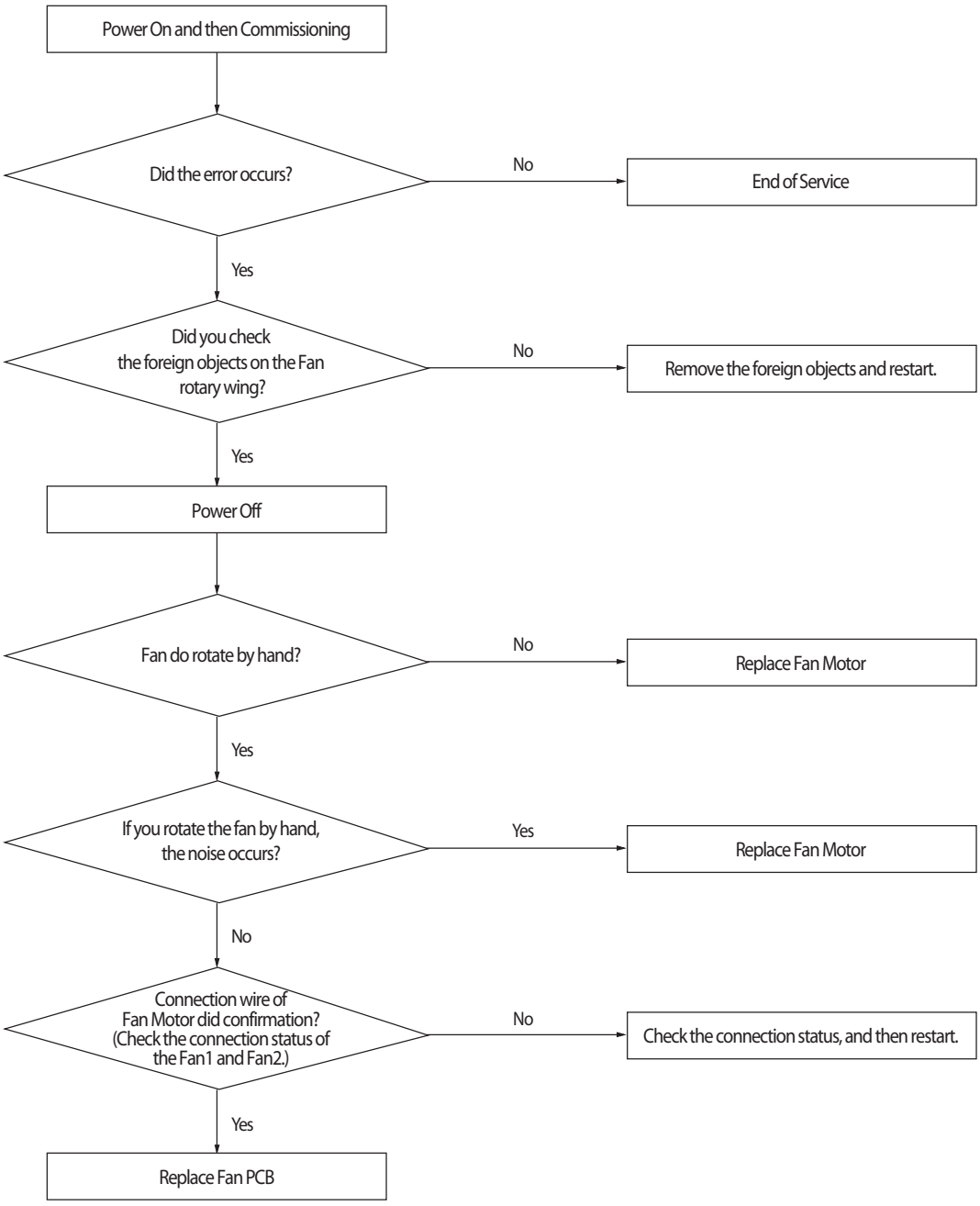
1. Cause of problem


Power Off and then Restart
Is the resistance value between different phases of an Motor (U↔V,V↔W,W↔U) less than 10Ω?
No
Replace Fan Motor
Yes
Is the resistance between the body of Fan Motor and chassis MΩ?
No
Replace Fan Motor
Yes
Does the Compressor connection wire properly connect?
No
Check the connection wire
Yes
Replace Fan PCB

4-4-66 Fan lock error

Outdoor unit display	E448 (FAN PCB(FAN1)) E348 (FAN PCB(FAN2))
Judgment Method	· Is checked symptoms by phase current of Fan Motor.
Cause of problem	· Fan Motor connection error. · Defective Fan · Defective PCB

1. Cause of problem



4-4-67 Momentary Blackout error

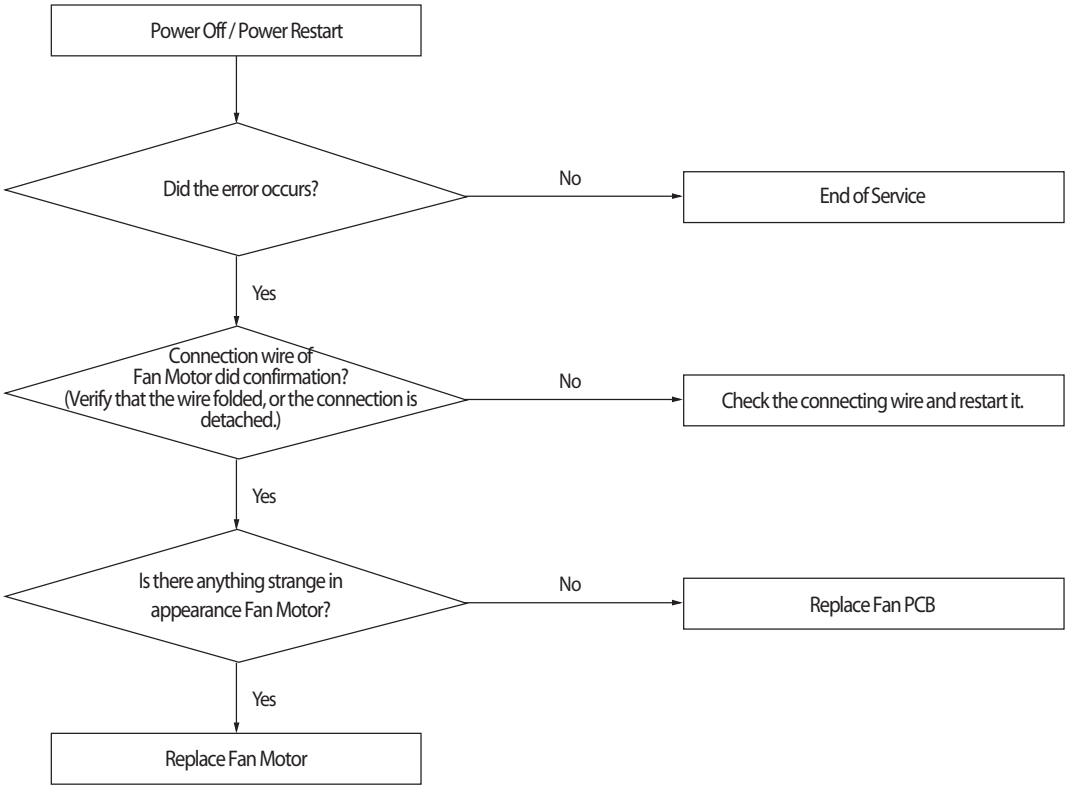
Outdoor unit display	E452
Indoorunit display	×(Operation) ◑ (Reservation) ◑ (Blast) ◑ (Filter) ×(Defrost)
Judgment Method	· Momentary stop of compressor due to momentary blackout.
Cause of problem	· Momentary stop of compressor due to momentary blackout.

1. Precautions : Replace Hub PCB or Main Hub Connection wire.

4-4-68 Outdoor Fan Motor overheating

Outdoor unit display	E453 (FAN PCB(FAN1)) E353 (FAN PCB(FAN2))
Judgment Method	· Overheating due to the internal sensor of the Fan Motor.
Cause of problem	· Defective connection wire · Defective Fan Motor · Defective PCB · Defective installation conditions

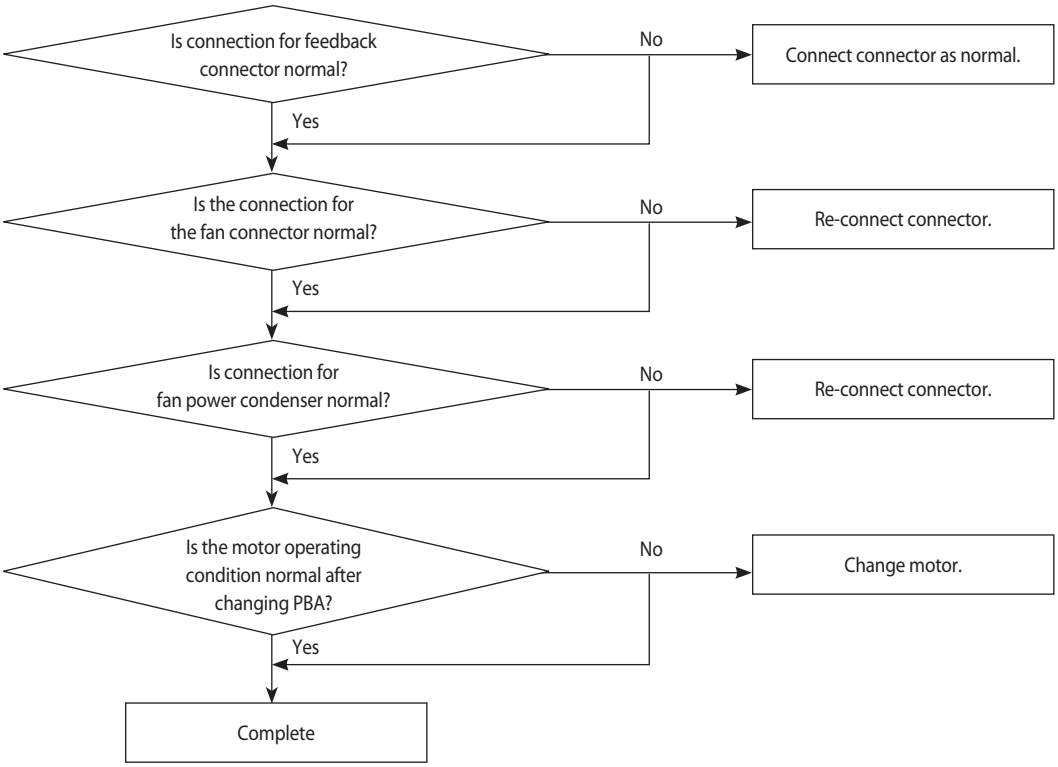
1. Cause of problem


Power Off / Power Restart
Did the error occurs?
No
End of Service
Yes
Connection wire of Fan Motor did confirmation? (Verify that the wire folded, or the connection is detached.)
No
Check the connecting wire and restart it.
Yes
Is there anything strange in appearance Fan Motor?
No
Replace Fan PCB
Yes
Replace Fan Motor

4-4-69 Outdoor Unit Fan Motor RPM Error

Outdoor Unit Display	E454
Indoor Unit Display	-
Judgment Method	• In case the number of the revolutions of the outdoor unit fan motor in motion is different by 100 rpm or more compared to the instructed value.
Special Cause	• Outdoor unit fan motor constrained or faulty of operation

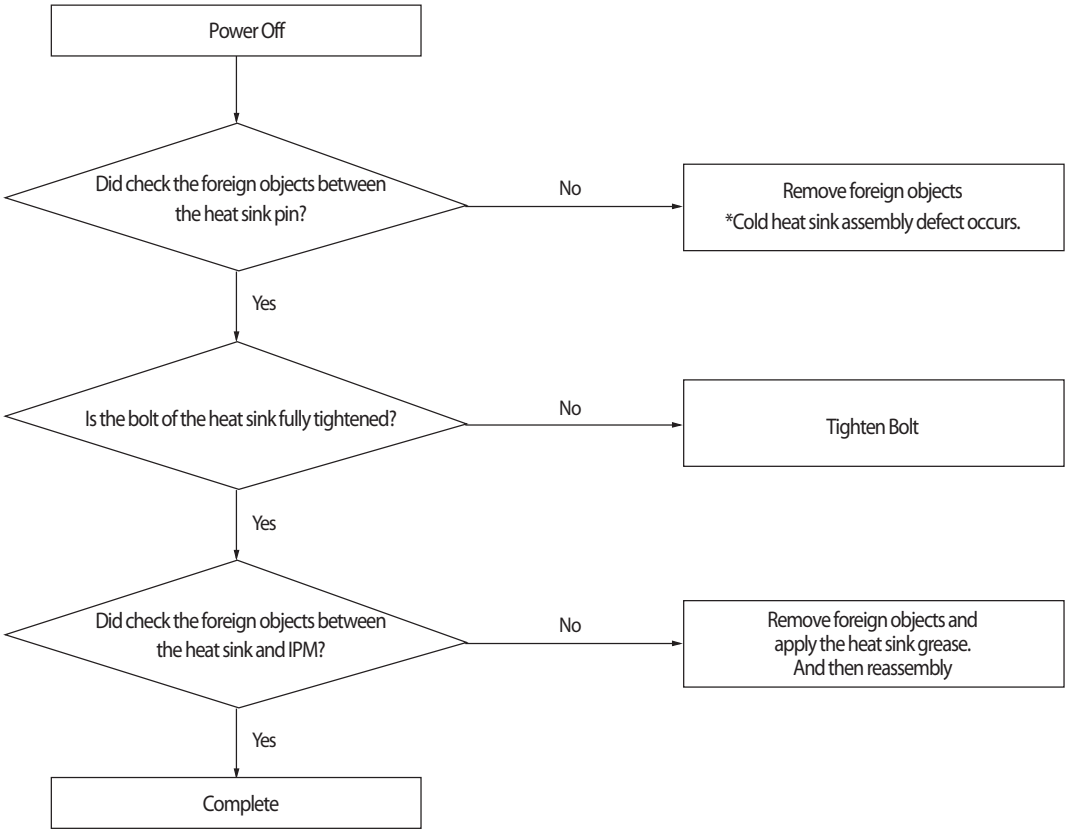
1. Inspection Method



4-4-70 Fan IPM Overheat error

Outdoor unit display	E455 (FAN1 PCB) E355 (FAN2 PCB)
Judgment Method	· IPM internal temperature more than 85℃ (E455, E355)
Cause of problem	· Heat sink and IPM assembly defective. · Defective heat sink cooling

1. Cause of problem


Power Off
Did check the foreign objects between the heat sink pin?
No
Remove foreign objects
*Cold heat sink assembly defect occurs.
Yes
Is the bolt of the heat sink fully tightened?
No
Tighten Bolt
Yes
Did check the foreign objects between the heat sink and IPM?
No
Remove foreign objects and apply the heat sink grease. And then reassembly
Yes
Complete

4-4-71 Over-Voltage Error of an Outdoor Fan Motor

Outdoor unit display	E456
Indoor unit display	-
Criteria	• When the current of an operating outdoor fan motor is more then 7A for 1 minute
Cause of problem	• Outdoor fan motor lock or defect • Occurs by abrupt start or overload

1. How to check
   1) Check if outdoor fan motor rotates or is locked
   2) If it is not locked, the above error occurs due to overload and signals by abnormal operation, and it indicates the overload status. Thus, it is not breakdown.
   3) Need to check if there is a problem with fan load status

4-4-72 Counter-Rotation Error of an Outdoor Fan Motor

Outdoor unit display	E457
Indoor unit display	-
Criteria	• When the rotational direction of an outdoor fan motor is counter-clockwise before operating
Cause of problem	• Due to wind that can run the fan counter-wise

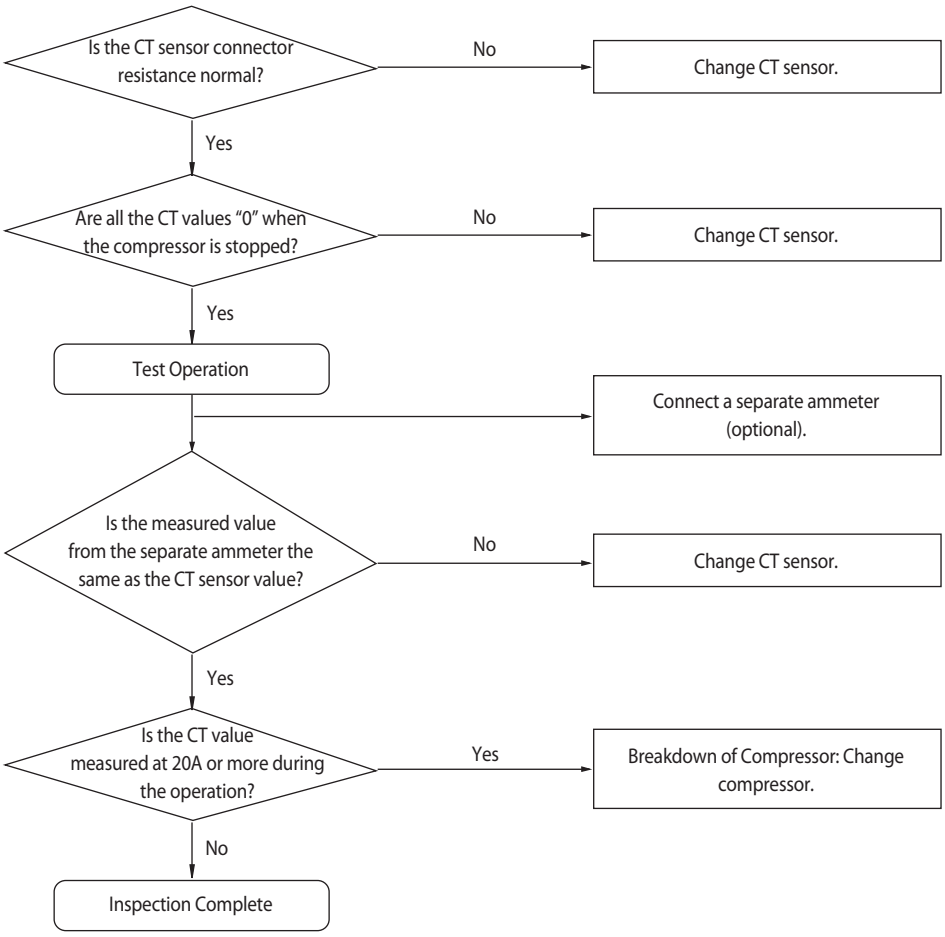
1. How to diagnose
   1) Check if the start instruction of outdoor unit's fan is counter-clockwise

2. How to check
   1) It is a signal to protect a motor by checking the operational condition of the outdoor unit's fan motor without power so as not to operate it in counter-clockwise condition.
   2) Check if there is wind strong enough to force a fan to rotate counter-clockwise where the outdoor unit is installed.

4-4-73 E458 : Compressor Excess Current Error

Outdoor Unit Display	E458
Indoor Unit Display	×(Operation) ◑(Reservation) ◑(Blast) ◑(Filter) ×(Defrost)
Judgment Method	• Error displayed if the CT sensor value of the relevant compressor is 20A or more and is maintained for more than 3 seconds.
Special Cause	• Breakdown of compressor/Faulty CT sensor

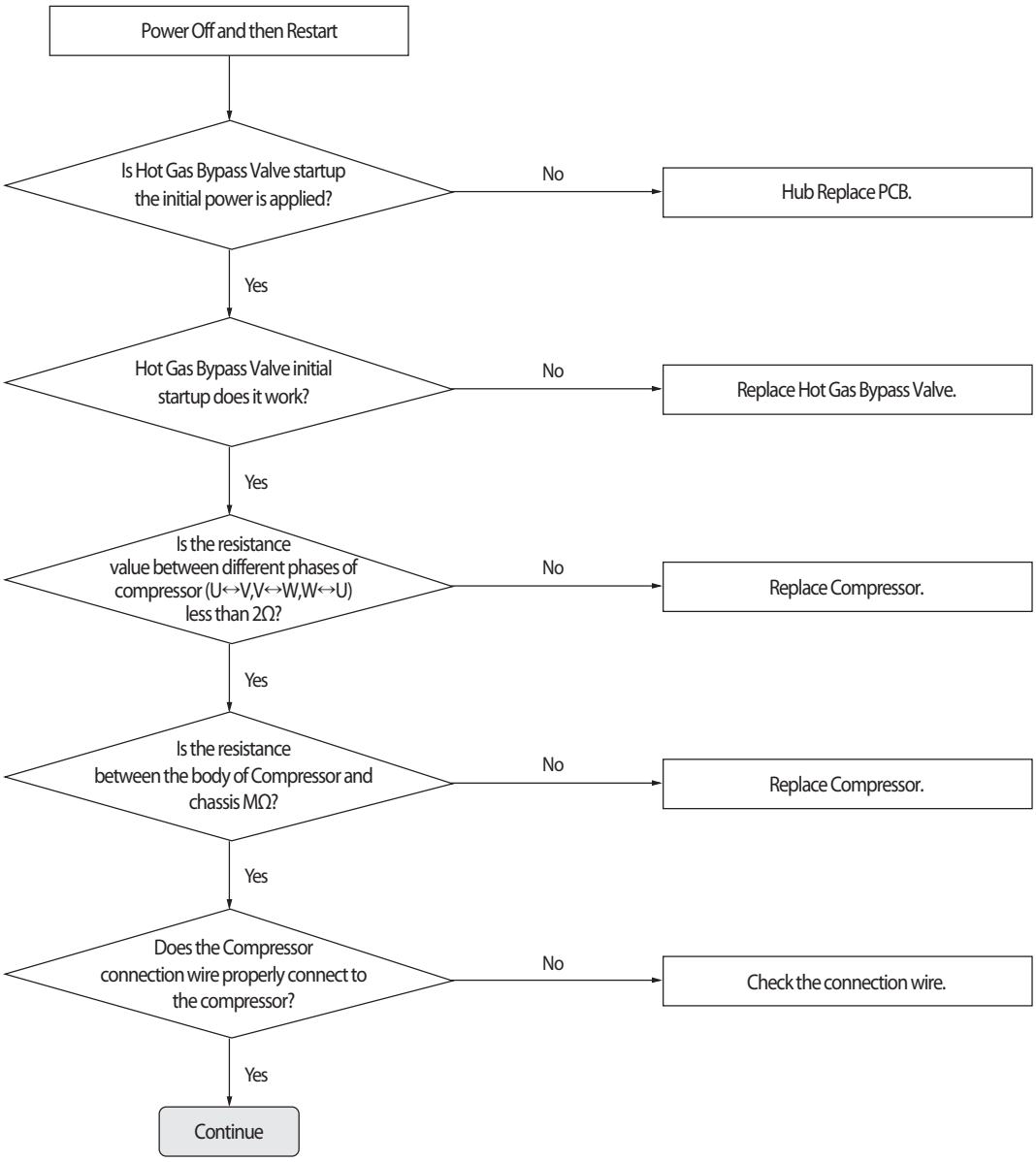
1. Inspection Method


Is the CT sensor connector resistance normal?
No
Change CT sensor.
Yes
Are all the CT values "0" when the compressor is stopped?
No
Change CT sensor.
Yes
Test Operation
Connect a separate ammeter (optional).
Is the measured value from the separate ammeter the same as the CT sensor value?
No
Change CT sensor.
Yes
Is the CT value measured at 20A or more during the operation?
Yes
Breakdown of Compressor: Change compressor.
No
Inspection Complete

4-4-74 Compressor starting error

Outdoor unit display	E461 (INVERTER1 PCB) E361 (INVERTER2 PCB)
Judgment Method	· Startup, and then if the speed increase is not normally. · Detected by H/W or S/W.
Cause of problem	· Compressor connection error · Defective Compressor · Defective PCB

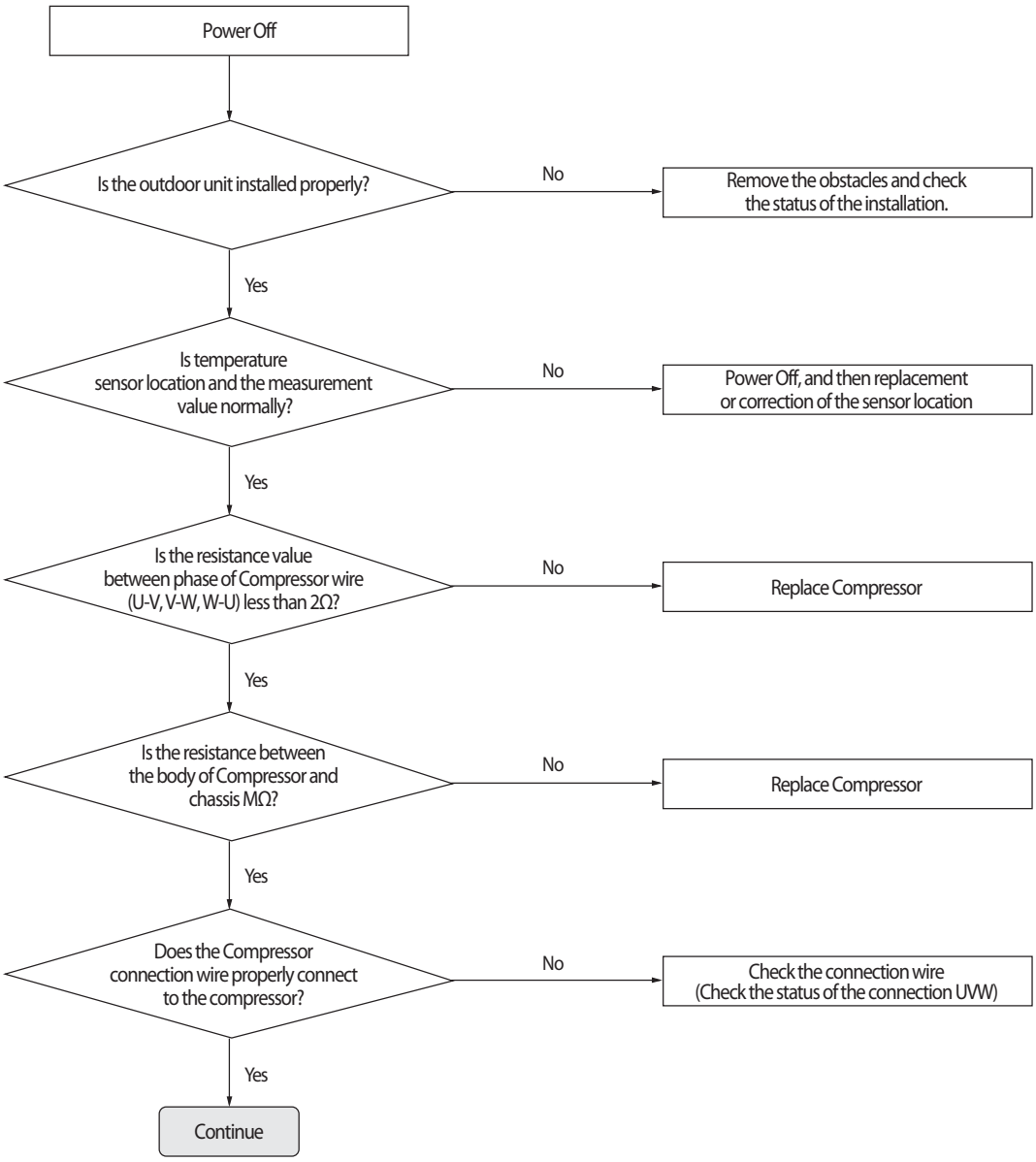
1. Cause of problem



4-4-75 Inverter Overcurrent error

Outdoor unit display	E464/E465 (INVERTER1 PCB) E364/E365 (INVERTER2 PCB)
Judgment Method	· Will occur if the overcurrent flowing in the IPM. · Detected by H/W or S/W
Cause of problem	· Installation defective · Comp. defective · PCB defective · Connection wire error · Motor defective

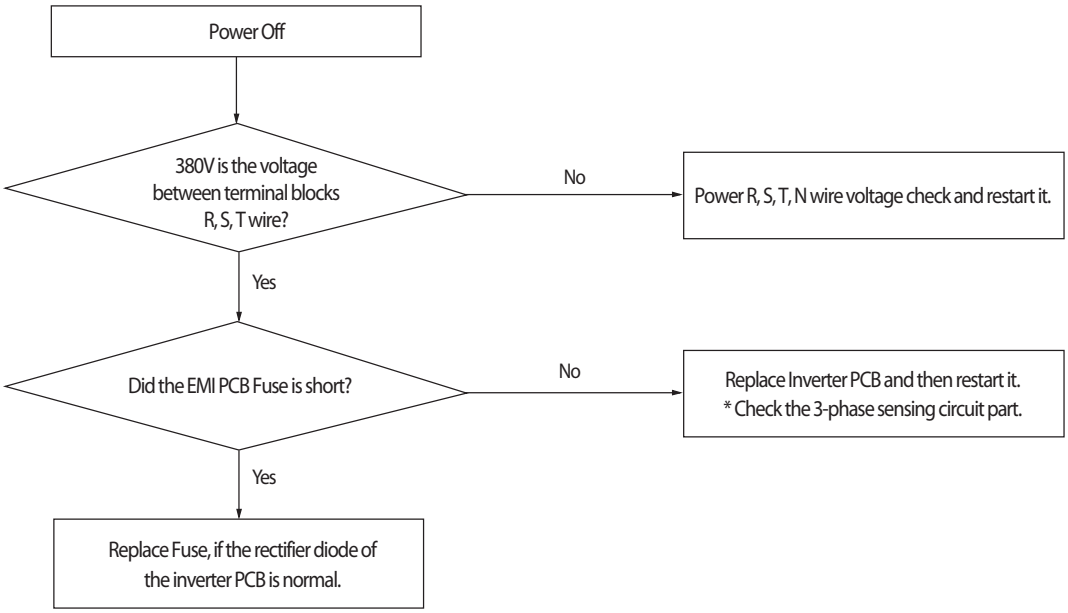
1. Cause of problem


Power Off
Is the outdoor unit installed properly?
No
Remove the obstacles and check the status of the installation.
Yes
Is temperature sensor location and the measurement value normally?
No
Power Off, and then replacement or correction of the sensor location
Yes
Is the resistance value between phase of Compressor wire (U-V, V-W, W-U) less than 2Ω?
No
Replace Compressor
Yes
Is the resistance between the body of Compressor and chassis MΩ?
No
Replace Compressor
Yes
Does the Compressor connection wire properly connect to the compressor?
No
Check the connection wire (Check the status of the connection UVW)
Yes
Continue

4-4-76 Overvoltage / Low voltage error

Outdoor unit display	E466 (INVERTER1 PCB) E366 (INVERTER2 PCB)
Judgment Method	· N-phase wiring error and EMI Fuse short. · DC-Link Overvoltage / Low voltage occurs.
Cause of problem	· Check the input wiring · EMI Fuse short

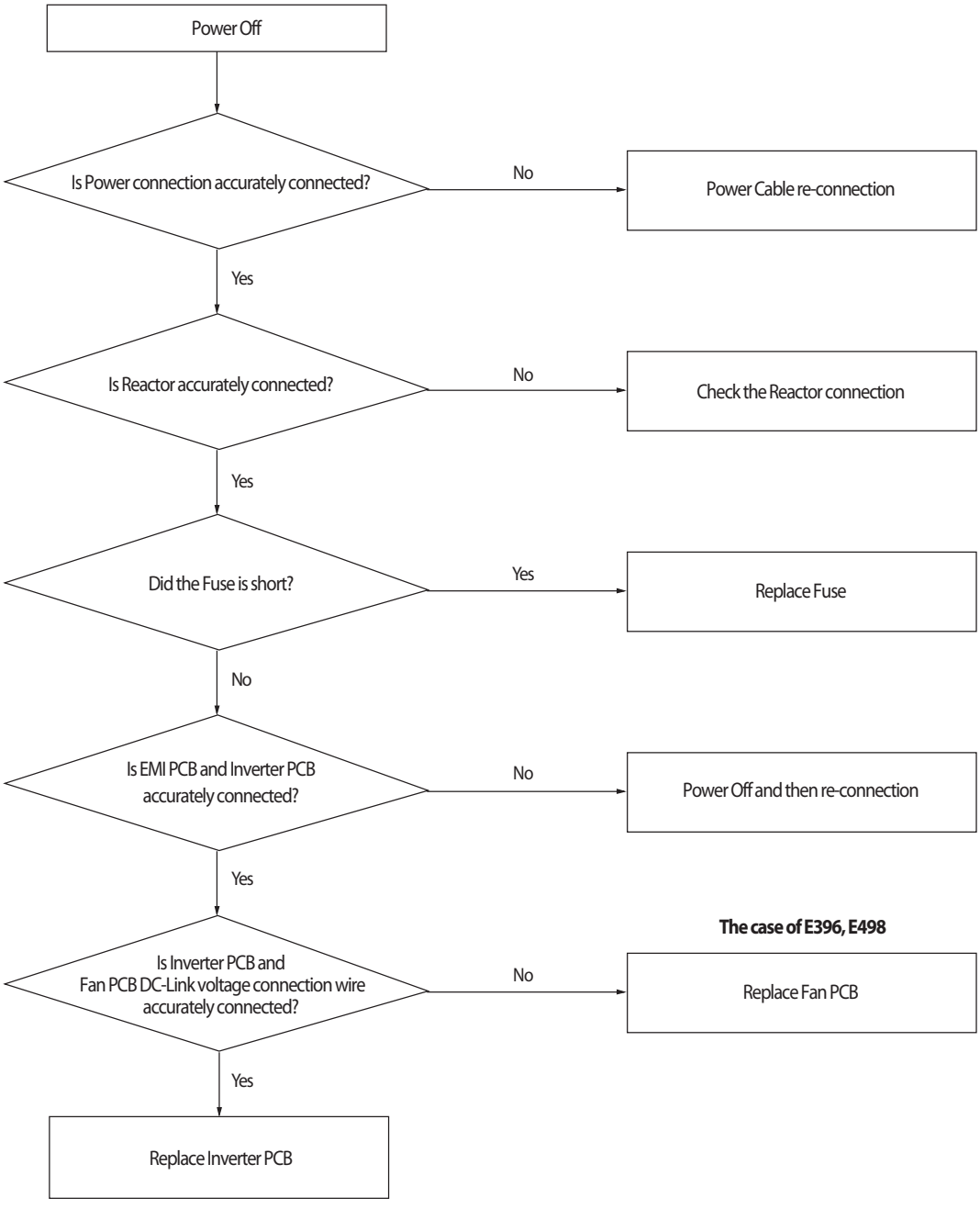
1. Cause of problem


Power Off
380V is the voltage between terminal blocks R, S, T wire?
No
Power R, S, T, N wire voltage check and restart it.
Yes
Did the EMI PCB Fuse is short?
No
Replace Inverter PCB and then restart it.
* Check the 3-phase sensing circuit part.
Yes
Replace Fuse, if the rectifier diode of the inverter PCB is normal.

4-4-77 DC Link voltage sensor error

Outdoor unit display	E469 (INVERTER1 PCB) E369 (INVERTER2 PCB) E496 (OUTDOOR FAN 1 PCB) E396 (OUTDOOR FAN 2 PCB)
Judgment Method	· DC voltage detection : Judged as an error if the detected value is more than 2.8V or 0.2V less than
Cause of problem	· Input voltage defective · AC Power wiring error · Momentary Overvoltage / Low voltage occurs · PCB voltage sensing circuit defective

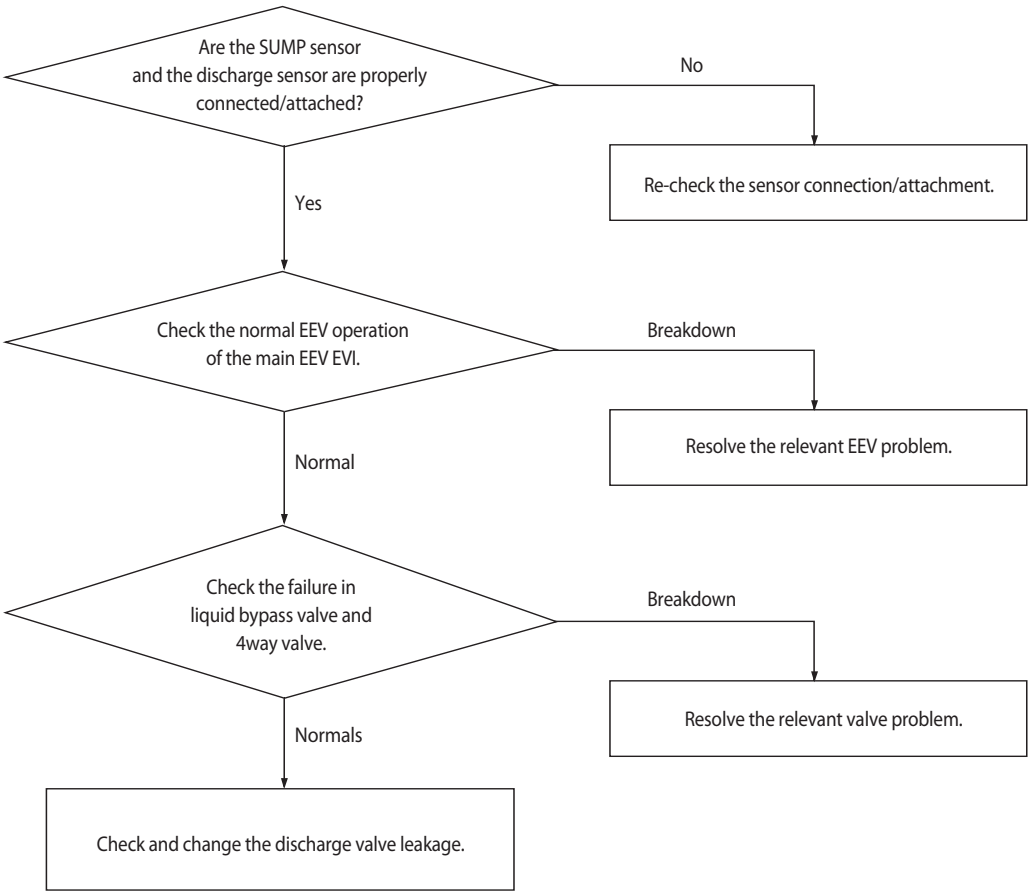
1. Cause of problem



4-4-78 Liquid Compression Prevention Control

Outdoor Unit Display	E477
Indoor Unit Display	-
Judgment Method	• SUMP temperature decrease & DSH < 5℃ 25 min.
Special Cause	• EVI EEV and super cooler, liquid bypass valve leakage, refrigerant overcharge, indoor unit EEV leakage, direct connection between indoor liquid pipe-gas pipe, faulty main EEV, and failure to operate compressor

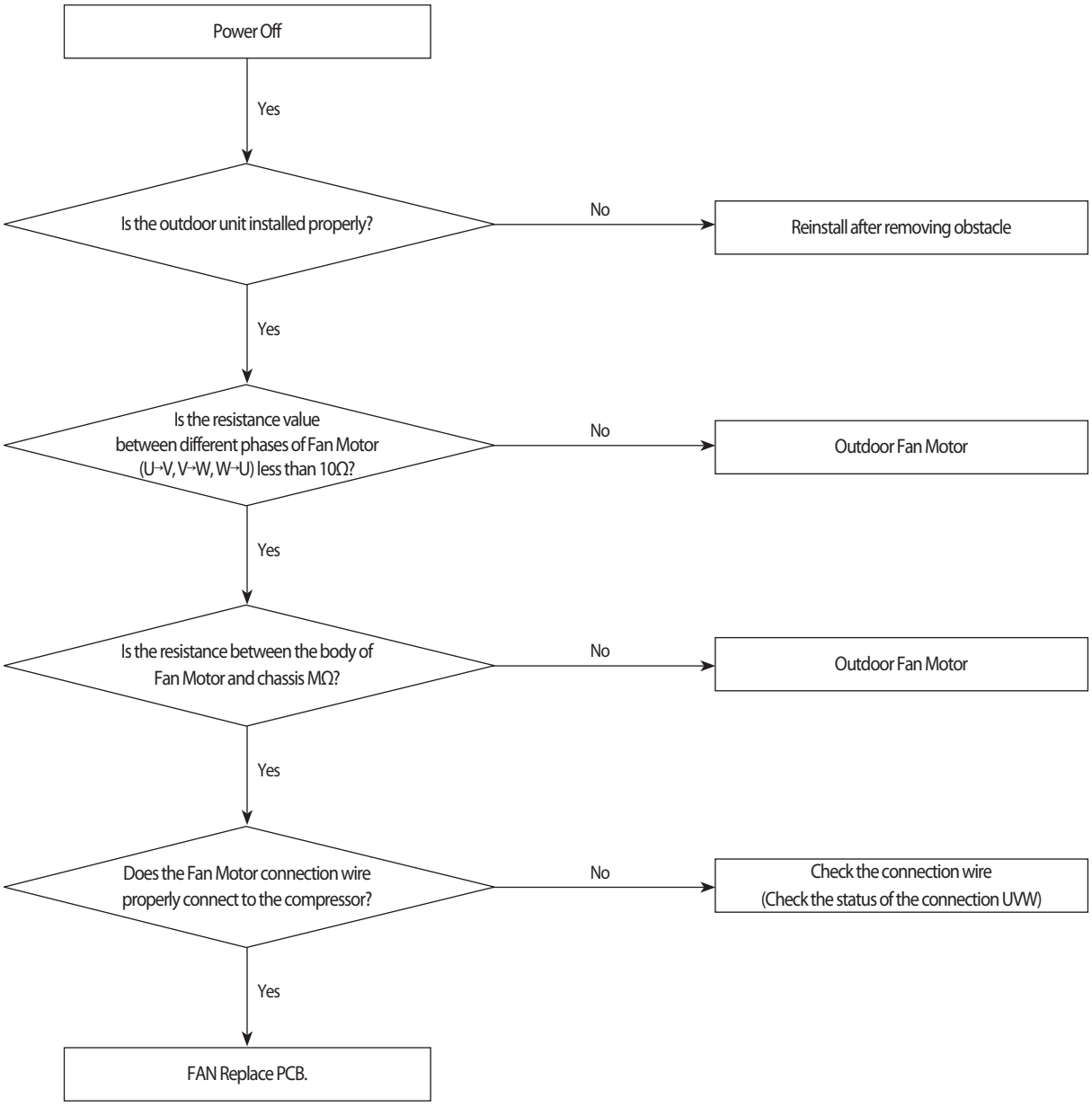
1. Inspection Method


Are the SUMP sensor and the discharge sensor are properly connected/attached?
No
Re-check the sensor connection/attachment.
Yes
Check the normal EEV operation of the main EEV EVI.
Breakdown
Resolve the relevant EEV problem.
Normal
Check the failure in liquid bypass valve and 4way valve.
Breakdown
Resolve the relevant valve problem.
Normals
Check and change the discharge valve leakage.

4-4-79 Fan Motor Overcurrent error

Outdoor unit display	E478/E489 (FAN PCB(FAN1)) E378/E389 (FAN PCB(FAN2))
Judgment Method	· Occurs when overcurrent flows in the IPM. · Detected by H/W or S/W
Cause of problem	· Installation error · Defective Comp · Defective PCB · Connector error · Defective Motor

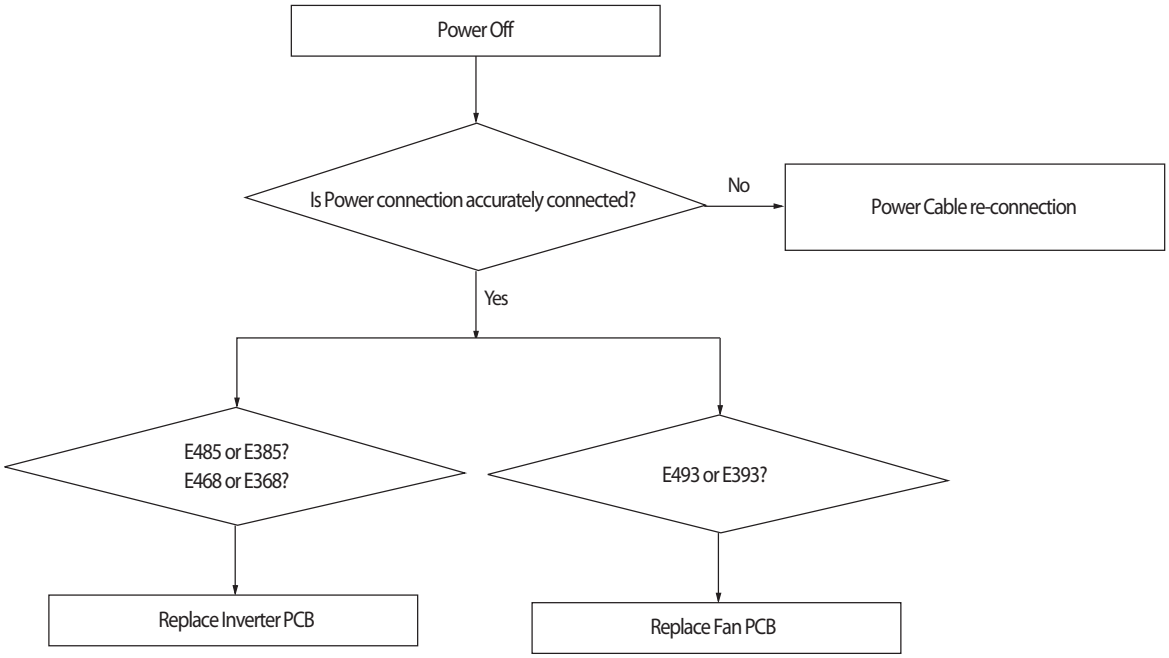
1. Cause of problem


Power Off
Yes
Is the outdoor unit installed properly?
No
Reinstall after removing obstacle
Yes
Is the resistance value between different phases of Fan Motor (U→V, V→W, W→U) less than 10Ω?
No
Outdoor Fan Motor
Yes
Is the resistance between the body of Fan Motor and chassis MΩ?
No
Outdoor Fan Motor
Yes
Does the Fan Motor connection wire properly connect to the compressor?
No
Check the connection wire (Check the status of the connection UVW)
Yes
FAN Replace PCB.

4-4-80 Input / Output Current sensor error

Outdoor unit display	E485 INVERTER1 PCB(Input Current sensor) E385 INVERTER2 PCB(Input Current sensor) E468 INVERTER1 PCB(Output Current sensor) E368 INVERTER 2 PCB(Output Current sensor) E493 OUTDOOR FAN PCB (FAN1 Output Current sensor) E393 OUTDOOR FAN PCB (FAN2 Output Current sensor)
Judgment Method	· Sensor Output detection : Judged as an error if the detected value is more than 2.8V or 0.2V less than
Cause of problem	· Input voltage defective · PCB voltage sensing circuit defective

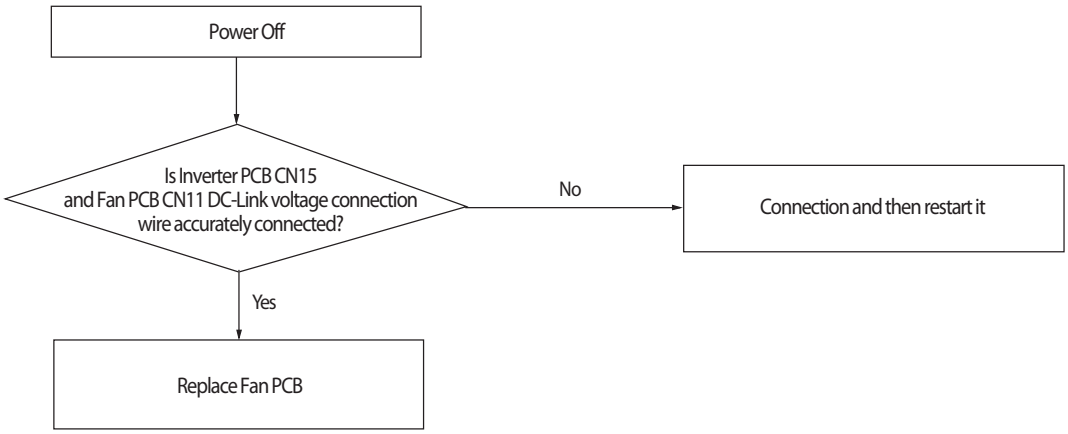
1. Cause of problem



4-4-81 Outdoor Fan PCB Overvoltage / Low voltage error

Outdoor unit display	E486
Judgment Method	· N-phase wiring error and EMI Fuse short. · DC-Link Overvoltage / Low voltage occurs.
Cause of problem	· Check the input wiring · EMI Fuse short

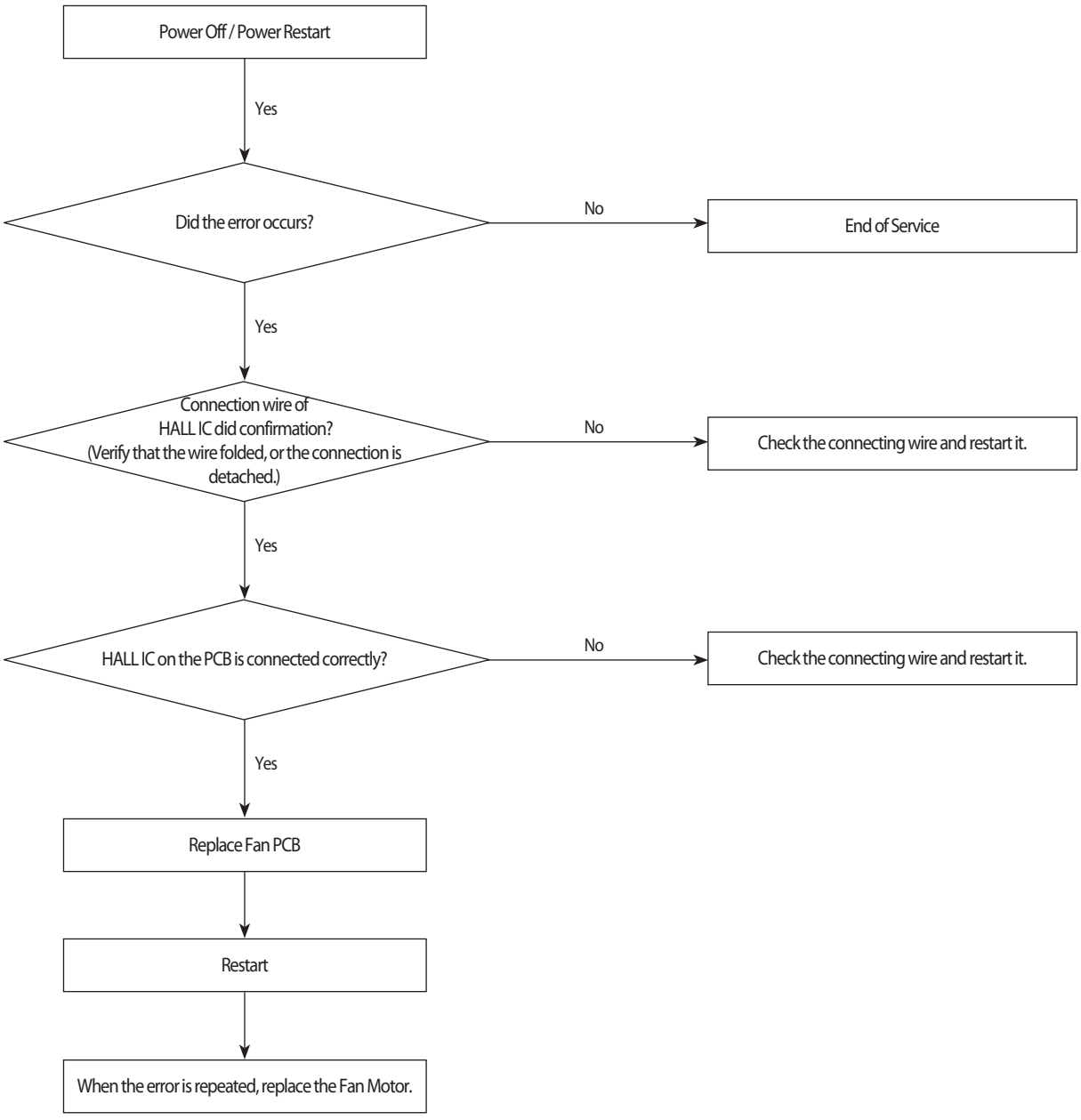
1. Cause of problem



4-4-82 Hall IC(Fan) error

Outdoor unit display	E487 (FAN PCB(FAN1)) E387 (FAN PCB(FAN2))
Judgment Method	· Fan rotation defective or vibration and noise of the defective operation. · Hall IC there is no signal input.
Cause of problem	· Connection status error. · Hall IC wire disconnection. · Defective circuit parts and defective manufacturing. · Fan Motor defective.

1. Cause of problem


Power Off / Power Restart
Yes
Did the error occurs?
No
End of Service
Yes
Connection wire of HALL IC did confirmation? (Verify that the wire folded, or the connection is detached.)
No
Check the connecting wire and restart it.
Yes
HALL IC on the PCB is connected correctly?
No
Check the connecting wire and restart it.
Yes
Replace Fan PCB
Restart
When the error is repeated, replace the Fan Motor.

4-4-83 Inverter Overheat error

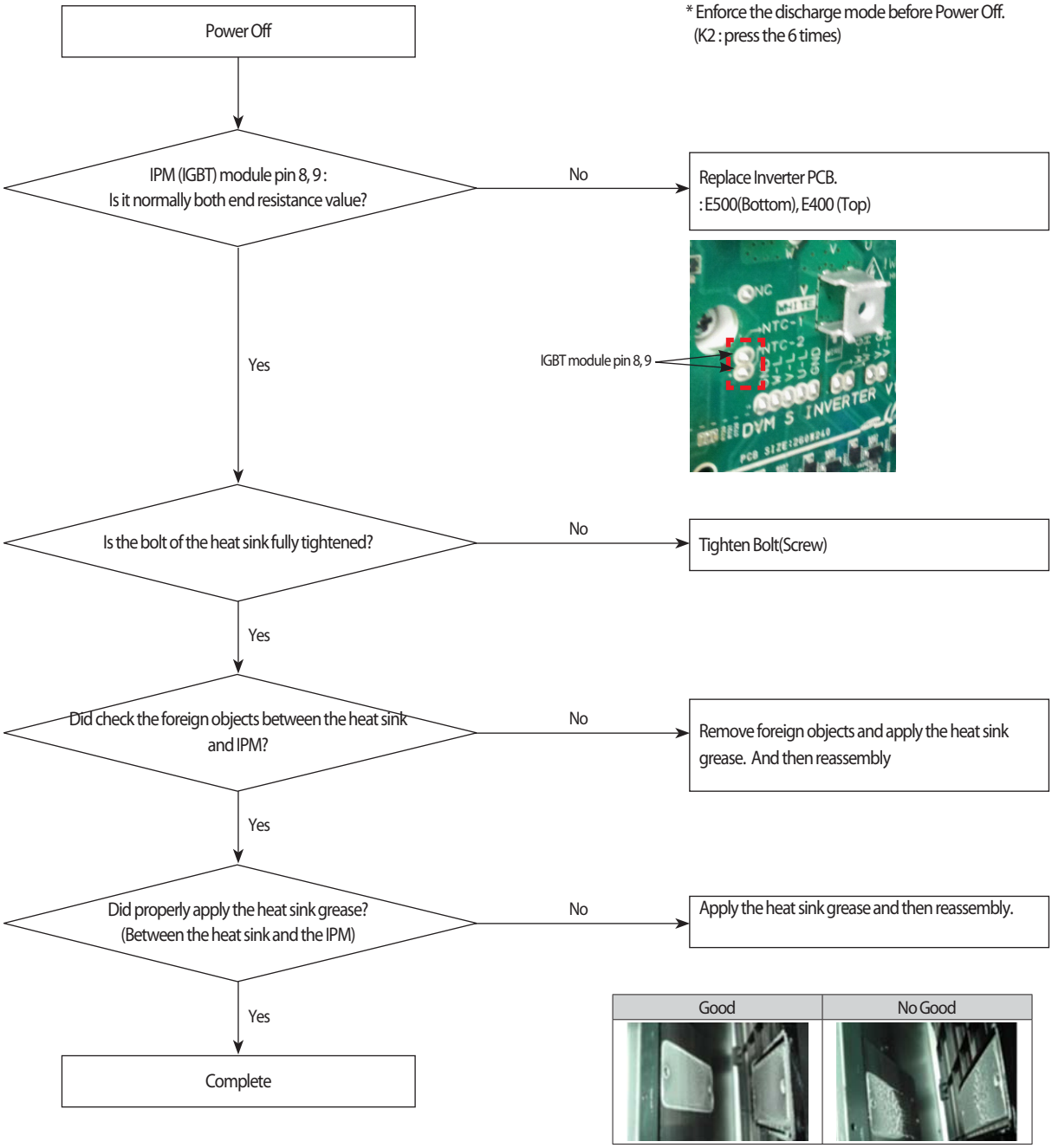
Outdoor unit display	E500 (INVERTER1 PCB) E400 (INVERTER2 PCB)
Judgment Method	· IGBT module internal temperature : 105℃ more than (E500, E400)
Cause of problem	· Cooling Pin and the IGBT junction part assembly defective. · Refrigerant cooling heat sink and refrigerant piping assembly defective. · Assembled bolt defective.

Both end resistance values of IGBT module pin(8, 9 pin)

Temperature [℃]	NTC [ohm]	AD [V]
10	9000	2.58
20	6000	2.33
30	4000	2.03
40	3000	1.80
50	2000	1.47
60	1600	1.29
70	1200	1.07
80	750	0.76
90	650	0.68

Temperature [℃]	NTC [ohm]	AD [V]
100	500	0.55
105	450	0.51
110	380	0.44
120	300	0.35
130	250	0.30
140	200	0.25

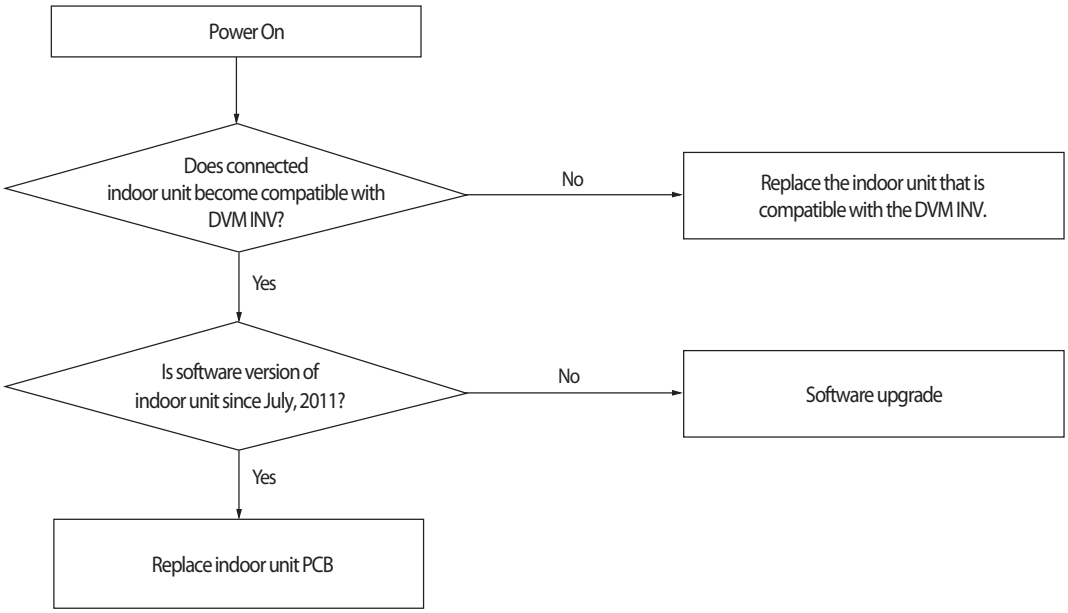
1. Cause of problem


Power Off
* Enforce the discharge mode before Power Off.
(K2 : press the 6 times)
IPM (IGBT) module pin 8, 9 :
Is it normally both end resistance value?
No
Replace Inverter PCB.
: E500(Bottom), E400 (Top)
Yes
IGBT module pin 8, 9
Is the bolt of the heat sink fully tightened?
No
Tighten Bolt(Screw)
Yes
Did check the foreign objects between the heat sink and IPM?
No
Remove foreign objects and apply the heat sink grease. And then reassembly
Yes
Did properly apply the heat sink grease?
(Between the heat sink and the IPM)
No
Apply the heat sink grease and then reassembly.
Yes
Complete
Good
No Good

4-4-84 Model mismatching of Indoor unit.

Outdoor unit display	E563
Judgment Method	· Prior to July 2011, if the software version of the indoor unit. · Prior to July 2011, if the software version of the indoor unit.
Cause of problem	· Check the software version of the indoor unit. · Check whether the support of the indoor unit.

1. Cause of problem


Power On
Does connected indoor unit become compatible with DVM INV?
No
Replace the indoor unit that is compatible with the DVM INV.
Yes
Is software version of indoor unit since July, 2011?
No
Software upgrade
Yes
Replace indoor unit PCB

4-4-85 Breakdown of an EEV(1st)

1. How to diagnose
   Detect only on cooling operation. (No detection during heating operation.)
   During cooling operation, the temperature of the inlet or outlet ducts of heat exchanger is kept lower than 0˚C for more than 20 minutes without cessation

2. How to check
   1) Check if the wire of an electronic expansion valve is correctly connected to the PCB of indoor unit.
   2) Check if the coil of an electronic expansion valve is correctly plugged into the main body.
   3) Check if there is any rust on the surface of the coil of an electronic expansion valve with the naked eye, and then check the resistance between each terminal to find any wire breaking or short circuit.
   4) Press the RESET KEY (K3) of the outdoor unit then see if the same error occurs.
      - In case of closure problem, operate the indoor unit in which the error has occurred.
      - In case of opening problem, please do not operate the indoor unit in which the error has occurred.
   5) If there is no problem with the above checkup items, replace the electronic expansion valve of the troubled indoor unit.
      - As an electronic expansion valve replacement is tricky work that requires collecting refrigerants in all systems, please make sure to check the above items before replacement.

4-4-86 Breakdown of an EEV closure

1. How to diagnose

   1) During cooling operation (It must satisfy each of the following conditions for over 20minutes.)

Tair in - Teva in in ≥ 4℃	OK
Tair in - Teva out in ≥ 4℃	OK
Tcond, out - Tair, out > 3℃	NO
Compressor in operation & Indoor unit operation & Thermo On	OK
Error details	EEV closure breakdown

   2) During heating operation (It must satisfy each of the following conditions for over 20minutes.)

   · When more than 2 indoor units are on Thermo On heating operating.

   · When average high pressure is over 25 kg/cm^{2}G

   · 5 minutes after finishing Safety Start.

   · Keep indoor units' T(Eva_IN)<T(Room)+3℃ and T(Eva_Out)<T(Room)+3℃ condition for more than five minutes.

2. How to check

   1) Check if the wire of an electronic expansion valve is correctly connected to the PCB of indoor unit.

   2) Check if the coil of an electronic expansion valve is correctly plugged into the main body.

   3) Check if there is any rust on the surface of the coil of an electronic expansion valve with the naked eye, and then check the resistance between each terminal to find any wire breaking or short circuit.

   4) Press the RESET KEY (K3) of the outdoor unit then see if the same error occurs.

      - In case of closure problem, operate the indoor unit in which the error has occurred.

      - In case of opening problem, please do not operate the indoor unit in which the error has occurred.

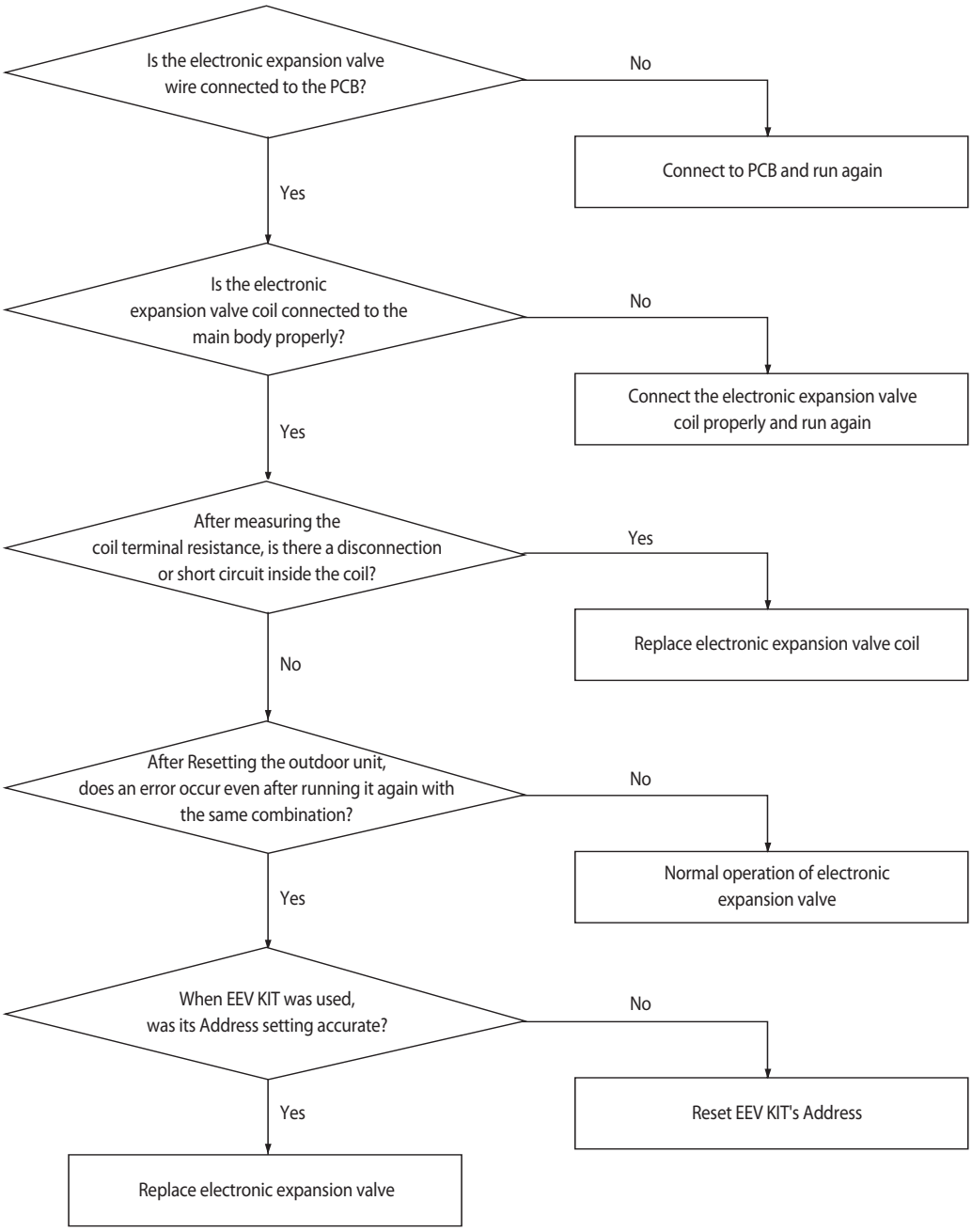
   5) If there is no problem with the above checkup items, replace the electronic expansion valve of the troubled indoor unit.

      - As an electronic expansion valve replacement is tricky work that requires collecting refrigerant in all systems, please make sure to check the above items before replacement.

4-4-87 Electronic expansion valve closing malfunction (2nd stage)

Outdoor unit display	1st stage inspection: P702 (only displays on outdoor unit) 2nd stage inspection: E 152 ↔ Axxx (x x x: error occurred)
Indoor unit display	×(Operation) ◑(Reservation) ◑(Blast) ◑(Filter) ×(Defrost)
Criteria	• Please refer to determining method below
Cause of problem	• Faulty indoor unit electronic expansion valve action (valve will not open) • Address setup error in indoor unit (RAC) using EEV KIT"

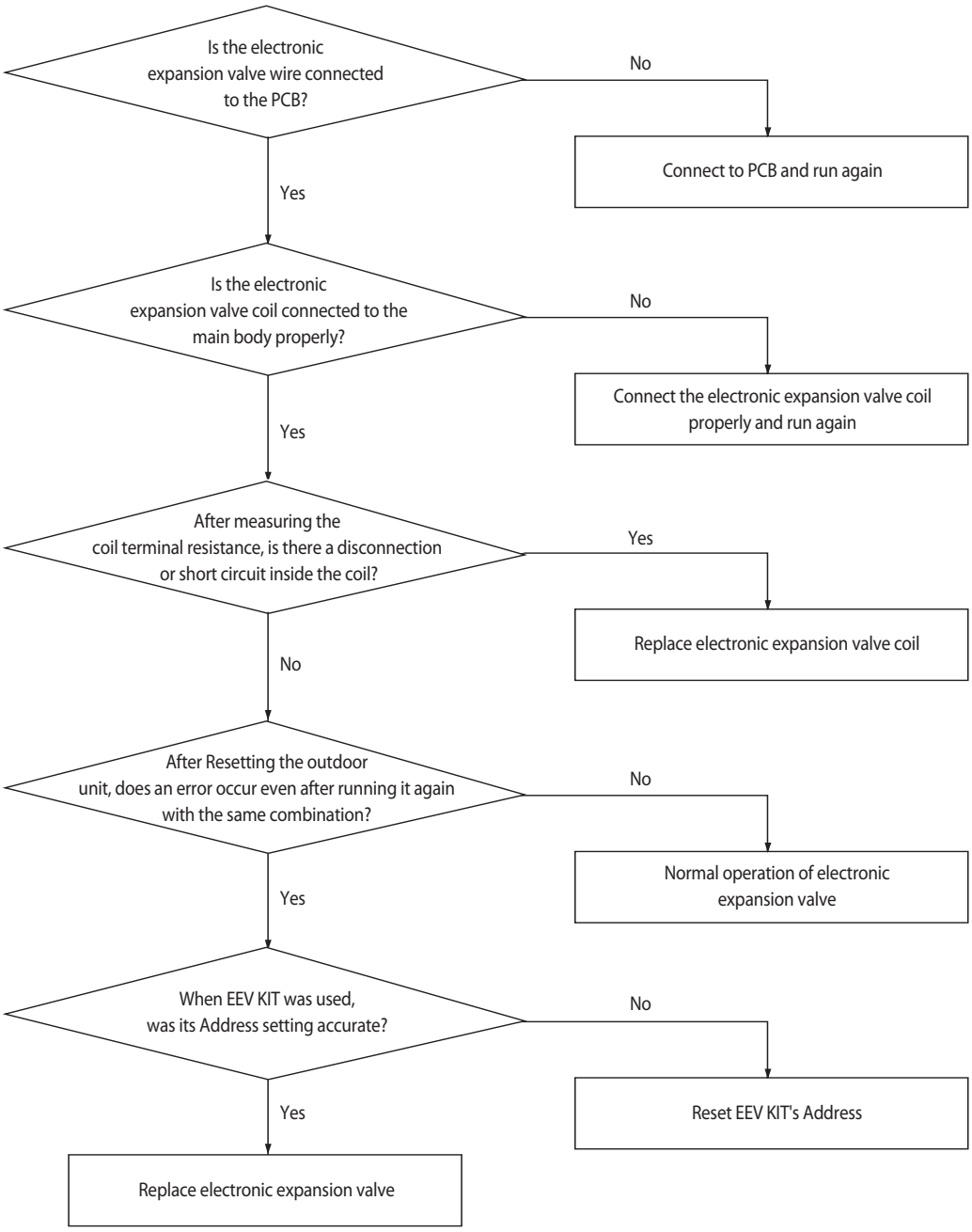
1. Inspection Method


Is the electronic expansion valve wire connected to the PCB?
No
Connect to PCB and run again
Yes
Is the electronic expansion valve coil connected to the main body properly?
No
Connect the electronic expansion valve coil properly and run again
Yes
After measuring the coil terminal resistance, is there a disconnection or short circuit inside the coil?
Yes
Replace electronic expansion valve coil
No
After Resetting the outdoor unit, does an error occur even after running it again with the same combination?
No
Normal operation of electronic expansion valve
Yes
When EEV KIT was used, was its Address setting accurate?
No
Reset EEV KIT's Address
Yes
Replace electronic expansion valve

4-4-88 Electronic expansion valve opening malfunction (2nd stage)

Outdoor unit display	1st stage inspection: P703 (only displays on outdoor unit) 2nd stage inspection: E151 ↔ Axxx (x x x: indoor unit address of where error occurred)
Indoor unit display	×(Operation) ◑(Reservation) ◑(Blast) ◑(Filter) ×(Defrost)
Criteria	• Please refer to determining method below
Cause of problem	• Faulty indoor unit electronic expansion valve action (refrigerant will leak into the stopped indoor unit) • Address setup error in indoor unit (RAC) using EEV KIT

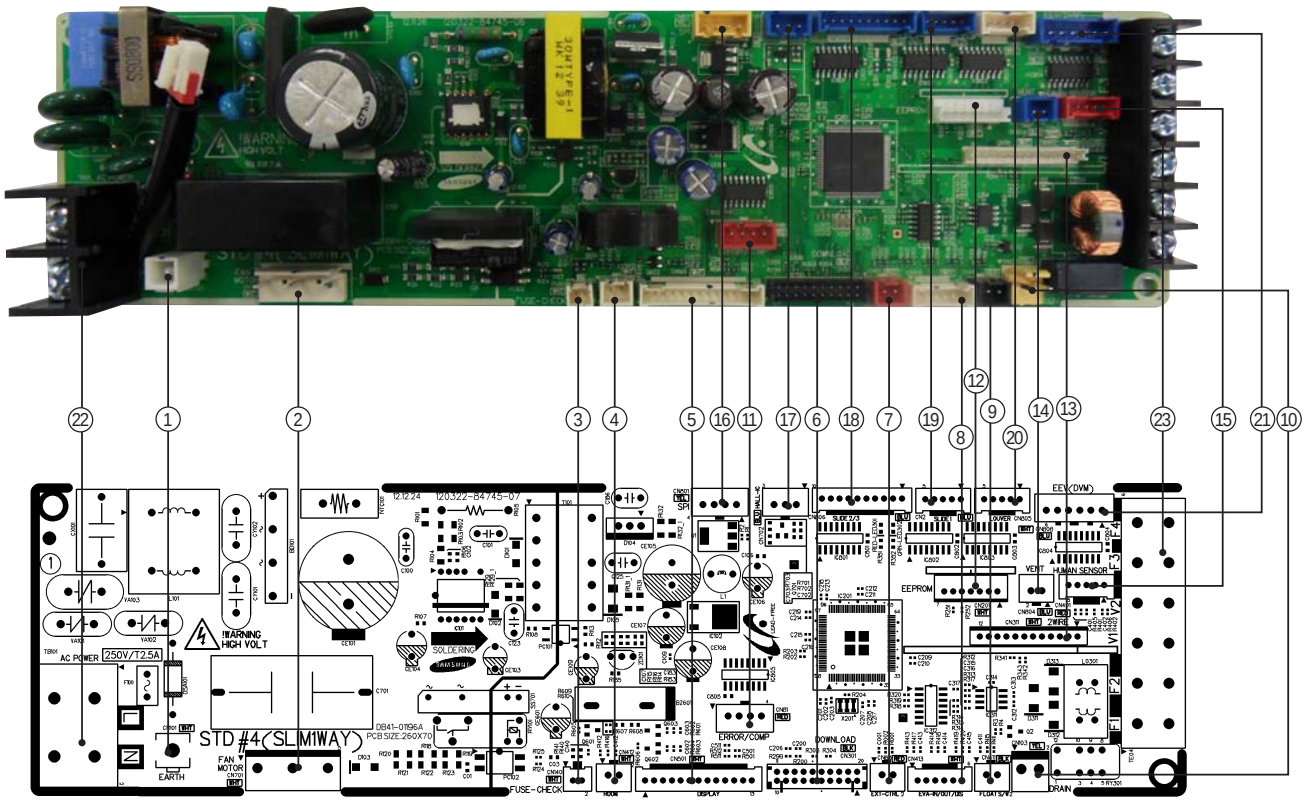
1. Inspection Method


Is the electronic expansion valve wire connected to the PCB?
No
Connect to PCB and run again
Yes
Is the electronic expansion valve coil connected to the main body properly?
No
Connect the electronic expansion valve coil properly and run again
Yes
After measuring the coil terminal resistance, is there a disconnection or short circuit inside the coil?
Yes
Replace electronic expansion valve coil
No
After Resetting the outdoor unit, does an error occur even after running it again with the same combination?
No
Normal operation of electronic expansion valve
Yes
When EEV KIT was used, was its Address setting accurate?
No
Reset EEV KIT's Address
Yes
Replace electronic expansion valve

5. PCB Diagram and Parts List

5-1 Indoor Unit

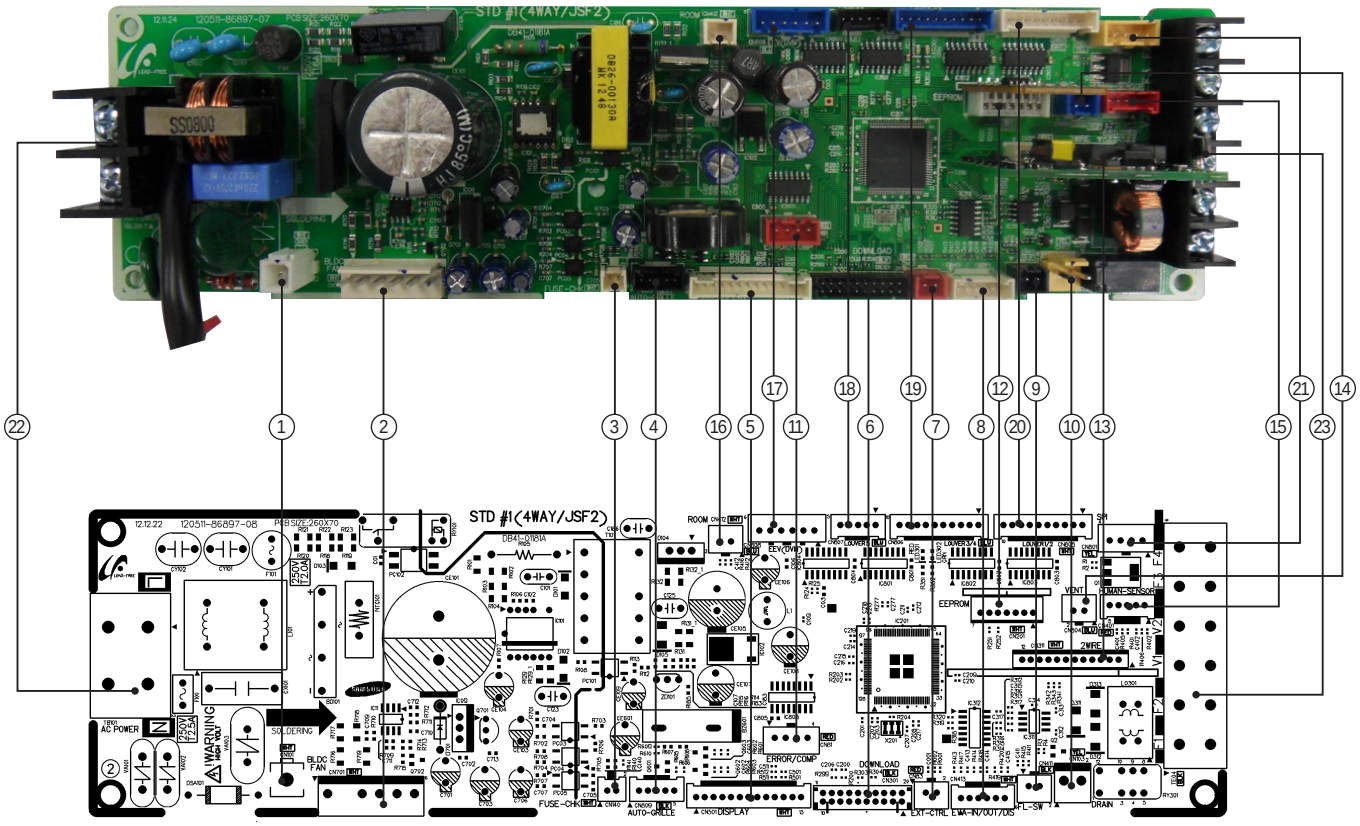
5-1-1 Slim 1 way cassette type



Slim 1 way cassette type (cont.)

① **CN101-GND** #1: GND	② **CN701-FAN MOTOR** #1: POWER(N) #3 : SSR MOTOR POWER(L) #5 : POWER(N)	③ **CN140-FUSE CHECK** #1: FUSE CHECK SIGNAL #2: GND	④ **CN412-ROOM THERMISTOR** #1 : ROOM THERMISTOR #2 : GND
⑤ **CN501-DISPLAY** #1: DC12V #2: LED_0 #3: LED_1 #4: LED_2 #5: LED_3 #6: LED_4 #8: REMOCON_OUTPUT_SIGNAL #9 : AUTO SWITCH #10: REMOCON_INPUT_SIGNAL #11: GND #12: DC5V #13: GND	⑥ **CN301-DOWNLOAD** #1: DC12V #2: GND	⑦ **CN83-EXT CTRL** #1: GND #2: EXT-CTRL SIGNAL	⑧ **CN413:THERMISTOR** #1 : EVA-IN THERMISTOR #2 : GND #3 : EVA-OUT THERMISTOR #4 : GND #5 : DISCHARGE THERMISTOR #6 : GND
⑨ **CN411-FLOAT SWITCH** #1: F/S SIGNAL #2: GND	⑩ **CN103-DRAIN PUMP** #1: D/ P POWER(DC12V) #2: GND	⑪ **CN81-ERROR/COMP CHECK** #1: DC12V #2: ERROR SIGNAL OUTPUT(GND) #3: DC12V #4: COMP/OPER. SIGNAL OUTPUT(GND)	⑫ **CN201-EEPROM** #1: GND #3: DC5V #4: EEPROM_SELECT #5: EEPROM_SO #6: EEPROM_SI #7: EEPROM_CLK
⑬ **CN311-2WIRED REMOCON**	⑭ **CN804-VENTILATOR** #1: DC12V #2: VENT SIGNAL OUTPUT(GND)	⑮ **CN401-HUMAN SENSING** #1: DC12V #2: HUMAN SENSOR COMM(TXD) #3: HUMAN SENSOR COMM(RXD) #4: GND	⑯ **CN801-SPI** #1: GND #2: GND #3: SPI POWER OUTPUT(DC12V)
⑰ **CN702-HALL IC** #1 : DC5V #2 : GND #3 : MOTOR FEEDBACK	⑱ **CN806-SLIDE 2/3** #1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT #6 : DC12V #7~#10: LOUVER SIGNAL OUTPUT	⑲ **CN2-SLIDE 1** #1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT	⑳ **CN805-LOUVER** #1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT
㉑ **CN808-EEV** #1~#4: EEV SIGNAL OUTPUT #5 : DC12V #6 : DC12V	㉒ **TB101-AC POWER** #1: POWER(L) #2: POWER(N)	㉓ **TE04-COMMUNICATION** #1: COM1(F1) #2: COM1(F2) #3: V1(DC12V) #4: V2(GND) #5: COM2(F3) #6: COM2(F4)	

5-1-2 4way cassette , mini 4way casette type

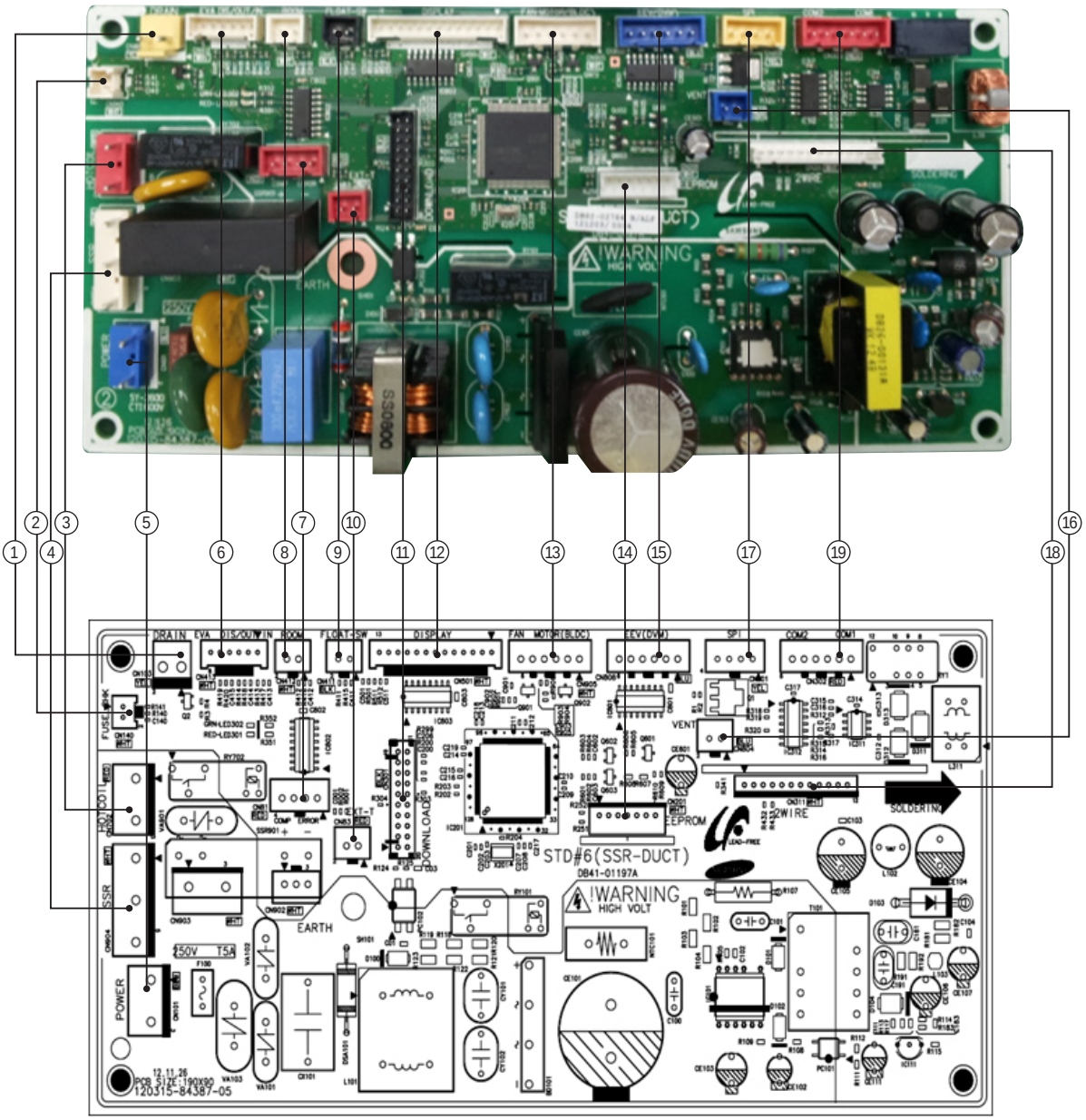


4way cassette , mini 4way casette type (cont.)

① **CN101-GND** #1: GND	② **CN701-BLDC MOTOR** #1: DC310V #3 : GND #4 : DC15V #5 : FAN RPM #6 : RPM FEEDBACK	③ **CN140-FUSE CHECK** #1: FUSE CHECK SIGNAL #2: GND	④ **CN809-AUTO GRILL** #1 : DC12V #4 : REMOCON SIGNAL #5 : GND
⑤ **CN501-DISPLAY** #1: DC12V #2: LED_0 #3: LED_1 #4: LED_2 #5: LED_3 #6: LED_4 #7: LED_5 #8: REMOCON_OUTPUT_SIGNAL #9 : AUTO SWITCH #10: REMOCON_INPUT_SIGNAL #11: GND #12: DC5V #13: GND	⑥ **CN301-DOWNLOAD**	⑦ **CN83-EXT CTRL** #1: GND #2: EXT-CTRL SIGNAL	⑧ **CN413:THERMISTOR** #1 : EVA-IN THERMISTOR #2 : GND #3 : EVA-OUT THERMISTOR #4 : GND #5 : DISCHARGE THERMISTOR #6 : GND
⑨ **CN411-FLOAT SWITCH** #1: F/S SIGNAL #2: GND	⑩ **CN103-DRAIN PUMP** #1: D/ P POWER(DC12V) #2: GND	⑪ **CN81-ERROR/COMP CHECK** #1: DC12V #2: ERROR SIGNAL OUTPUT(GND) #3: DC12V #4: COMP/OPER. SIGNAL OUTPUT(GND)	⑫ **CN201-EEPROM** #1: GND #3: DC5V #4: EEPROM_SELECT #5: EEPROM_SO #6: EEPROM_SI #7: EEPROM_CLK
⑬ **CN311-2WIRED REMOCON**	⑭ **CN804-VENTILATOR** #1: DC12V #2: VENT SIGNAL OUTPUT(GND)	⑮ **CN401-HUMAN SENSING** #1: DC12V #2: HUMAN SENSOR COMM(TXD) #3: HUMAN SENSOR COMM(RXD) #4: GND	⑯ **CN412-ROOM THERMISTOR** #1 : ROOM THERMISTOR #2 : GND
⑰ **CN808-EEV** #1~#4: EEV SIGNAL OUTPUT #5 : DC12V #6 : DC12V	⑱ **CN807-LOUVER5** #1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT	⑲ **CN806-LOUVER3/4** #1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT #6 : DC12V #7~#10: LOUVER SIGNAL OUTPUT	⑳ **CN805-LOUVER1/2** #1 : DC12V #2~#5: LOUVER SIGNAL OUTPUT
㉑ **CN801-SPI** #1: GND #2: GND #3: SPI POWER OUTPUT(DC12V)	㉒ **TB101-AC POWER** #1: POWER(L) #2: POWER(N)	㉓ **TE04-COMMUNICATION** #1: COM1(F1) #2: COM1(F2) #3: V1(DC12V) #4: V2(GND) #5: COM2(F3) #6: COM2(F4)	

5-1-3 Duct type (SLIM 1,2)

■ MAIN PCB



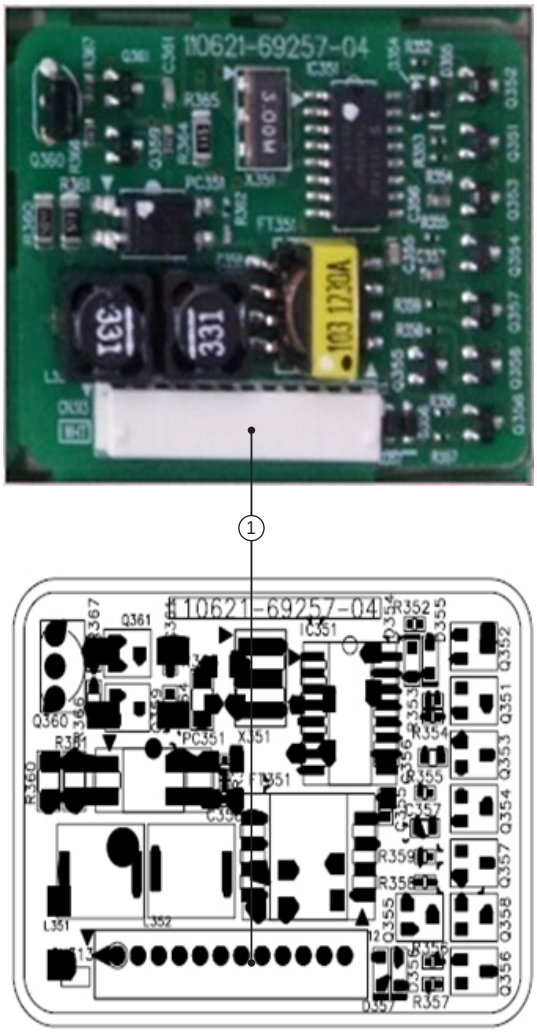
Duct type (SLIM 1,2) (cont.)

■ MAIN PCB

① **CN103-DRAIN** #1:POWER #2:GND	② **CN140-FUSE CHK** #1:POWER #2:GND	③ **CN702-HOTCOIL** #1:N #3:L	④ **CN904-SSR** #1,#5:N #3:L #2,#4:NO USED
⑤ **CN101-POWER** #1:L #3:N	⑥ **CN413-EVA DIS/OUT/IN** #1:EVA-IN #3:EVA-OUT #5:DISCHARGE #2,#4,#6:GND	⑦ **CN81-COMP ERROR** #1,#3:12V #2:ERROR_CHK_OUT #4:COMP_CHK_OUT	⑧ **CN412-ROOM** #1:ROOM #2:GND
⑨ **CN411-FLOAT SW** #1:FLOAT SW #2:GND	⑩ **CN83-EXT T** #1:GND #2:EXT_CTRL	⑪ **CN301-DOWNLOAD** - For Developer only,Not available in Actual Site - 20 Pin Down Loader	⑫ **CN501-DISPLAY** 12.CN501-DISPLAY #1:12V #2~#6:DISPLAY LED CONTROL #7:BZ_1 #8:REMOCON SIGNAL OUT #9:AUTO_SW #10:REMOCON_INT #11:GND #12:VCC #13:BZ_2
⑬ **CN905-FAN MOTOR** #1:12V #2:GND #3:VCC #4:MOTOR SIGNAL PWM1 OUT #5:R903 CONTROL SIGNAL #6:INRUSH OUT	⑭ **CN201-EEPROM** #1:GND #2:NO USED #3:VCC #4:EEPROM_SELECT #5EEPROM_SO #6:EEPROM_SI #7:EEPROM CLK	⑮ **CN808-EEV(DVM)** #1~4:CONTROL SIGNAL #5~6:12V	⑯ **CN804-VENT** **#1:12V** **#2:VENT_OUT**
⑰ **CN801-SPI** #1:GND #2:GND #3:CONTROL SIGNAL #4:NOT USED	⑱ **CN311-2WIRE** #1:12V #2:COM2_PCTRL_MICOM #3:COM2_VCHECK_A #4:COM2_VCHECK_B #5:COM2_MICOM_AD #6:VCC #7:COM2_ENABLE #8:COM2_C #9:COM2_D #10:COM2_Tx #11:COM2_Rx #12:GND	⑲ **CN302-COM1 COM2** #1~2:COM1 #3:12V #4:GND #5~6:COM2	

Duct type (SLIM 1,2) (cont.)

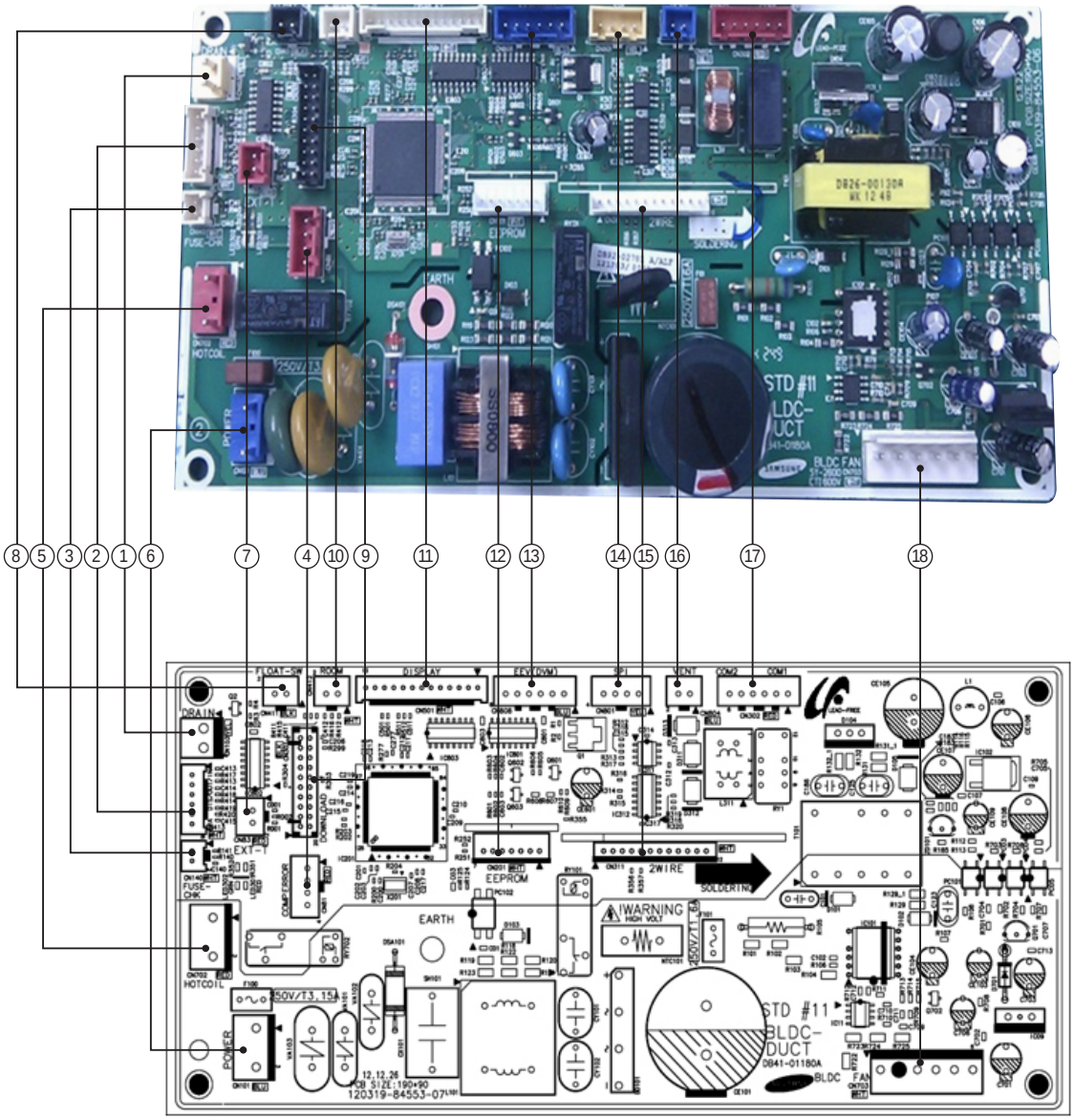
■ Sub PCB



① CN313-2WIRES COMM.
#1:12V
#2:COM2_PCTRL_MICOM
#3:COM2_VCHECK_A
#4:COM2_VCHECK_B
#5:COM2_MICOM_AD
#6:VCC
#7:NO UESD
#8:COM2_C
#9:COM2_D
#10:COM2_TXD
#11:COM2_RXD
#12:GND

5-1-4 Duct type (Slim Duct 3)

■ MAIN PCB



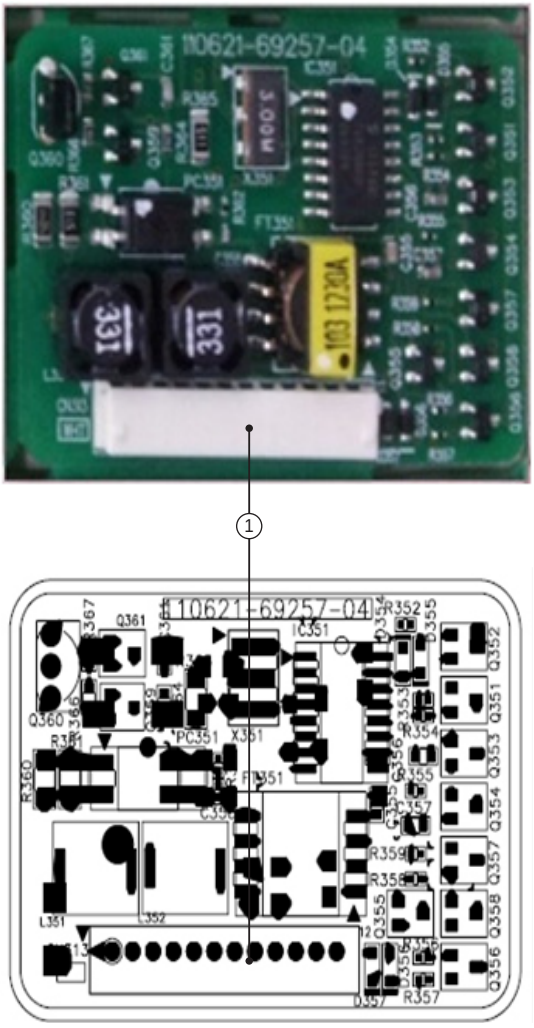
Duct type (Slim Duct 3) (cont.)

■ MAIN PCB

① **CN103-DRAIN** #1:POWER #2:GND	② **CN413-EVA DIS/OUT/IN** #1:EVA-IN #3:EVA-OUT #5:DISCHARGE #2,#4,#6:GND	③ **CN140-FUSE CHK** #1:POWER #2:GND	④ **CN81-COMP ERROR** #1,#3:12V #2:ERROR_CHK_OUT #4:COMP_CHK_OUT
⑤ **CN702-HOTCOIL** #1:N #3:L	⑥ **CN101-POWER** #1:L #3:N	⑦ **CN83-EXT T** #1:GND #2:EXT_CTRL	⑧ **CN411-FLOAT SW** #1:FLOAT SW #2:GND
⑨ **CN301-DOWNLOAD** →For Developer only,Not available in Actual Site →20 Pin Down Loader	⑩ **CN412-ROOM** #1:ROOM #2:GND	⑪ **CN501-DISPLAY** #1:12V #2~#6:DISPLAY LED CONTROL #7:BZ_1 #8:REMOCON SIGNAL OUT #9:AUTO_SW #10:REMOCON_INT #11:GND #12:VCC #13:BZ_2	⑫ **CN201-EEPROM** #1:GND #2:NO USED #3:VCC #4:EEPROM_SELECT #5EEPROM_SO #6:EEPROM_SI #7:EEPROM CLK
⑬ **CN808-EEV(DVM)** #1~4:CONTROL SIGNAL #5~6:12V	⑭ **CN801-SPI** #1:GND #2:GND #3:CONTROL SIGNAL #4:NOT USED	⑮ **CN311-2WIRE** #1:12V #2:COM2_PCTRL_MICOM #3:COM2_VCHECK_A #4:COM2_VCHECK_B #5:COM2_MICOM_AD #6:VCC #7:COM2_ENABLE #8:COM2_C #9:COM2_D #10:COM2_Tx #11:COM2_Rx #12:GND	⑯ **CN804-VENT** #1:12V #2:VENT_OUT
⑰ **CN302-COM1 COM2** #1~2:COM1 #3:12V #4:GND #5~6:COM2	⑱ **CN703-BLDC FAN** #1:DC310V #2:NOT USED #3:AGND #4:DC15V #5:PC04 OUTPUT #6:RPM OUTPUT		

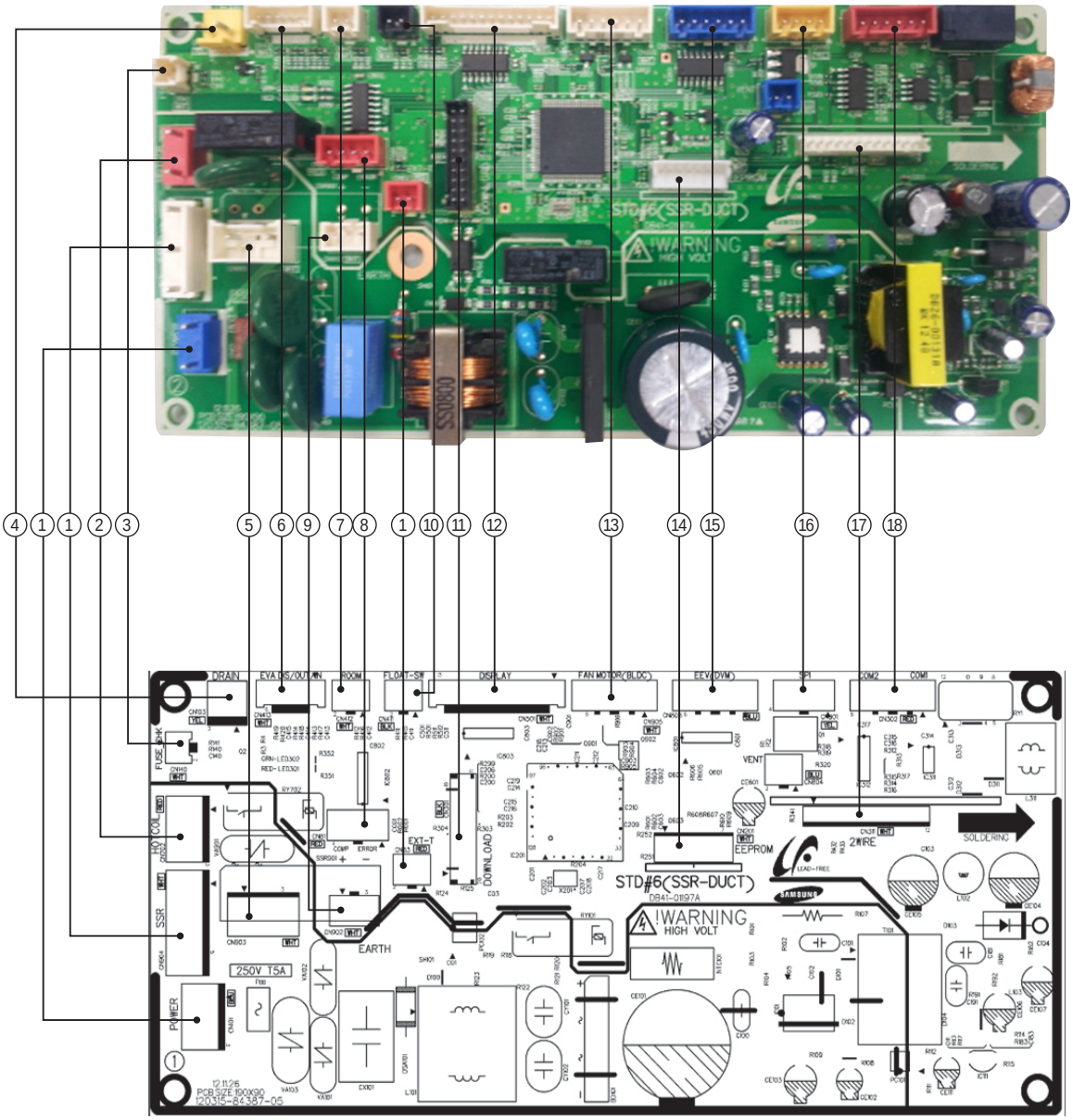
Duct type (Slim Duct 3) (cont.)

■ Sub PCB



① CN313-2WIRES COMM.
#1:12V
#2:COM2_PCTRL_MICOM
#3:COM2_VCHECK_A
#4:COM2_VCHECK_B
#5:COM2_MICOM_AD
#6:VCC
#7:NO UESD
#8:COM2_C
#9:COM2_D
#10:COM2_TXD
#11:COM2_RXD
#12:GND

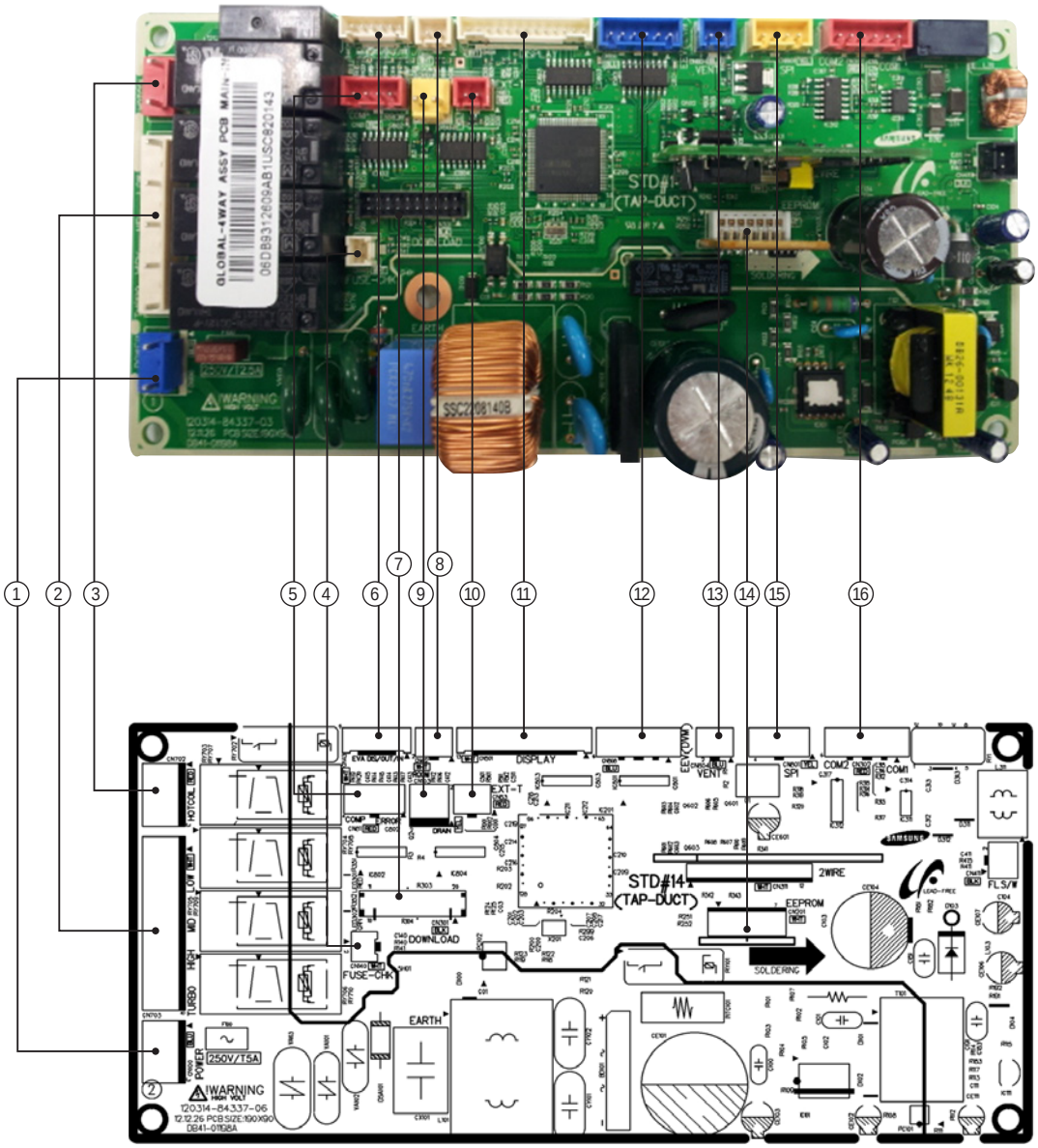
5-1-5 Duct type(MSP)



Duct type(MSP) (cont.)

① **CN904-SSR MOTOR** #1: N #2: L #3: N	② **CN702-HOT COIL** #1: L #2: N	③ **CN140-FUSE CHECK** #1:FUSE CHECK #2:GND	④ **CN103-DRAIN PUMP** #1: 12V #2 : GND
⑤ **CN903-SSR AC** 제어 #1: L Input #2: L Output	⑥ **CN413-** 온도 센서 #1 : EVA IN TEMP #2,4,6: GND #3 : EVA OUT TEMP #5 : DISCHARGE TEMP	⑦ **CN412-ROOM** 온도센서 #1: 온도 입력 #2: GND	⑧ **CN81-EXTERNAL CONTROL OUT** #1,3: 12V #2: ERROR CHECK OUT #4: COM CHK OUT
⑨ **CN902- SSR DC** 출력 #1: 12V #2: MOTOR SSR OUT	⑩ **CN83-EXTERNAL CONTROL** #1: GND #2: EXT CTRL	⑪ **CN301-MICOM DOWNLOAD**	⑫ **CN501-DISPLAY** #1:12V #2~6:LED 제어 #7: BZ1 #8: 리모컨 신호 출력 #9: AUTO SW #10: REMOCON INT #11:GND #12:VCC #13:BZ2
⑬ **CN905-BLDC MOTOR** #1:12V #2: GND #3: VCC #4: MOTOR SIGNAL PWM #5: MOTOR FEEDBACK #6:INRUSH OUT #12:VCC	⑭ **CN201-E2P** 모듈	⑮ **CN808-** 전동변 #1~4: 전동변 제어 #5,6: 12V	⑯ **CN801-SPI** #1,2:GND #3:SPI 제어
⑰ **CN311-2** 선 통신	⑱ **CN302-** 실내외기 통신 / 유선 #1,2:실내외기 통신 #3:12V #4:GND #5:유선리모컨 통신	⑲ **CN101-AC INPUT** #1: L #2: N	

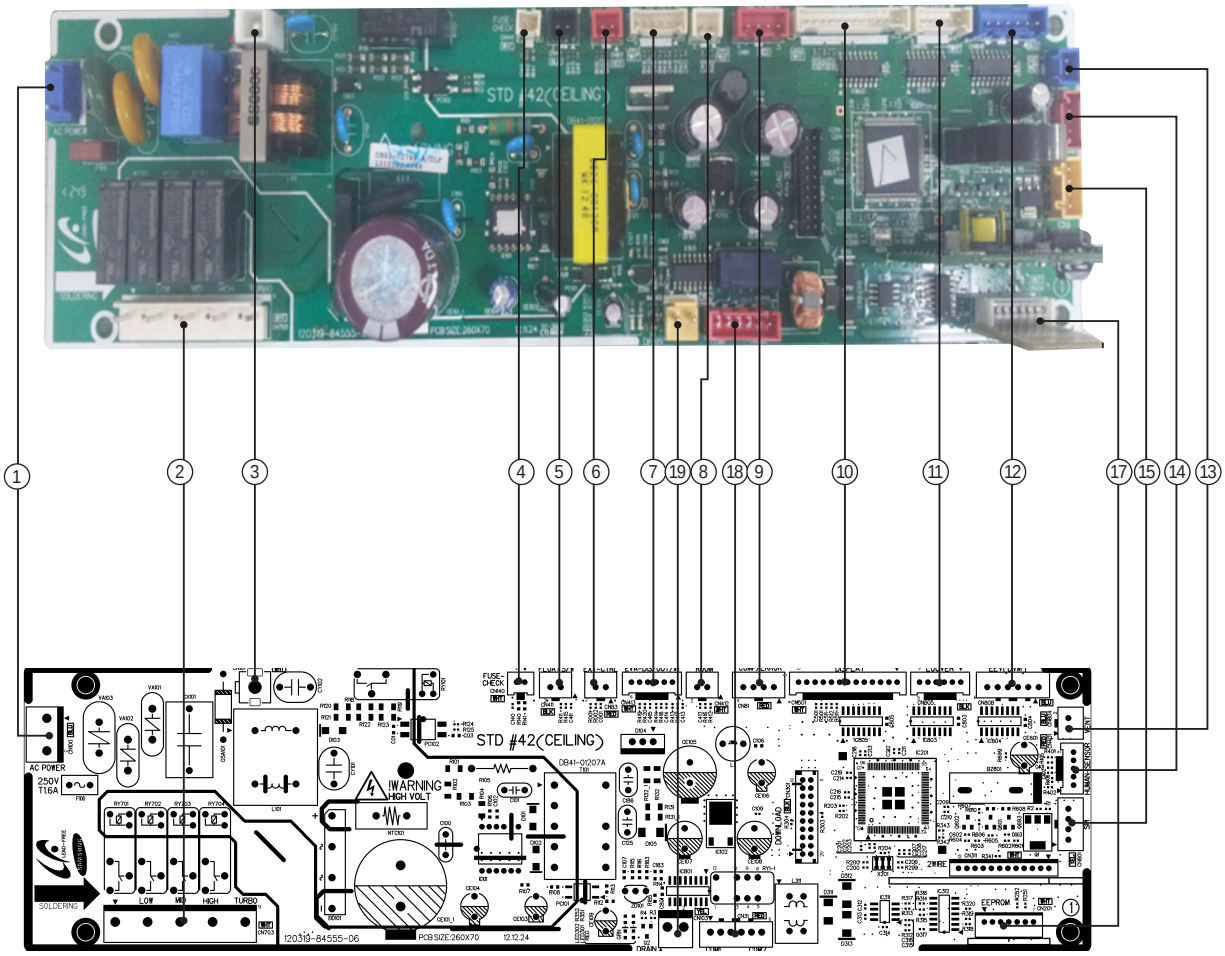
5-1-6 Duct type (Super)



Duct type (Super) (cont.)

① CN100-POWER #1: LIVE #2: - #3: NEUTRAL	② CN703-FAN STEP #1: NEUTRAL #2: - #3: FAN_LOW_OUT #4: - #5: FAN_MID_OUT #6: - #7: FAN_HUGH_OUT #8: - #9: FAN_TURBO_OUT	③ CN702-HOT COIL #1: NEUTRAL #2: LIVE	④ CN140-FUSE CHECKER
⑤ CN81-ERROR/COMP CHECK #1: 12V #2: ERROR_CHK_OUT #3: 12V #4: COMP_CHK_OUT	⑥ CN413-EVA IN/EVA OUT/ DISCHARGE TEMP #1: EVA-IN #2: EVA-IN #3: EVA-OUT #4: EVA-OUT #5: DISCHARGE #6: DISCHARGE	⑦ CN301-DOWNLOAD	⑧ CN412-ROOM TEMP #1: ROOM TEMP #2: ROOM TEMP
⑨ CN103-DC DRAIN PUMP #1: DRAIN_PUMP_OUT #2: GND	⑩ CN83-EXT_CONTROL	⑪ CN501-DISPLAY #1: 12V #2: LED_0_OUT #3: LED_1_OUT #4: LED_2_OUT #5: LED_3_OUT #6: LED_4_OUT #7: BZ_1 #8: REMOCON_SIGN_OUT #9: AUTO_SW #10: REMOCON_INT #11: GND #12: 5V #13: BZ_2	⑫ CN808-EEV(DVM) #1: EEV'_B_OUT #2: EEV'_A_OUT #3: EEV_B_OUT #4: EEV_A_OUT #5: 12V #6: 12V
⑬ CN804-VENTILATOR #1: 12V #2: VENT_OUT	⑭ CN201-EEPROM	⑮ CN801-SPI #1: GND #2: GND #3: SPI_CTRL_OUT_1 #4: -	⑯ CN302-COM1/COM2 #1: COM1_A #2: COM1_B #3: 12V #4: GND #5: COM2_C #6: COM2_D

5-1-7 Celing type

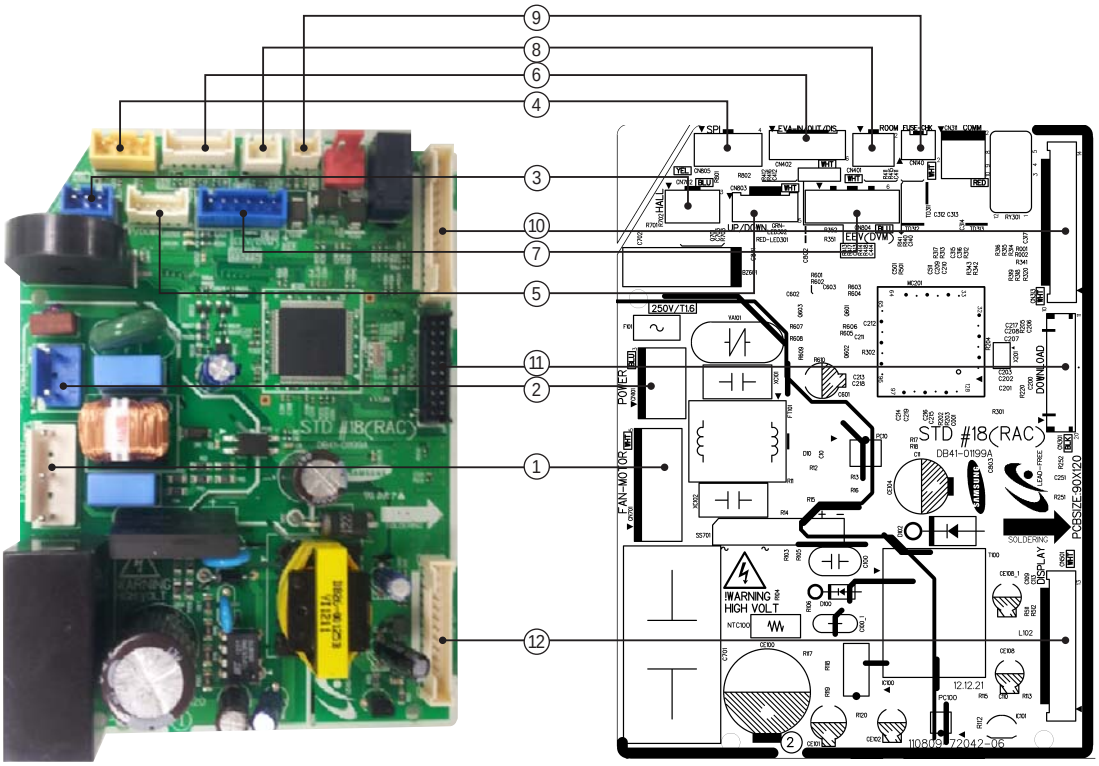


Celing type (cont.)

① **CN100-VENTILATOR** #1: L #3: N	② **CN703-FAN MOTOR** #1: N #3: RY701 OUTPUT #5: RY702 OUTPUT #7: RY703 OUTPUT #9: RY704 OUTPUT	③ **CN101-GND** #1: GND	④ **CN140-FUSE CHECK** #1: FUSE CHECK #2: GND
⑤ **CN411-FLOAT S/W** #1: FLOAT_SW #2: GND	⑥ **CN83-EXT CTRL** #1: GND #2: EXT_CTRL	⑦ **CN413-EVA-DIS/OUT/IN** #1: VEA_IN_MID_TEMP #2: GND #3: EVA_OUT_TEMP #4: GND #5: EVA_DIS_TEMP #6: GND	⑧ **CN412-ROOM** #1: ROOM_TEMP #2: GND
⑨ **CN81-COMP/ERROR** #1: DC 12V #2: ERROR_CHK_OUT #3: DC 12V #4: COMP_CHK_OUT	⑩ **CN501-DISPLAY** #1: DC 12V #2~#7: LED SIGNAL #8: REMOCON_SIGN_OUT #9: AUTO_SW #10: REMOCON_INT #11: GND #12: DC 5V #13: NOT USED	⑪ **CN805-LOUVER** #1: DC 12V #2: DC 12V #3~#6: LVR SIGNAL	⑫ **CN808-EEV(DVM)** #1~#4: EEV SIGNAL #5: DC 12V #6: DC 12V
⑬ **CN804-VENT** #1: DC 12V #2: VENT_OUT	⑭ **CN401-HUMAN_SENSOR** #1: DC 12V #2: COM4_TXD #3: COM4_RXD #4: NOT USED #5: GND	⑮ **CN801-SPI** #1: GND #2: GND #3: Q1_OUT #4: NOT USED	⑯ **CN311-2WIRE OPTION** #1:DC12V #2~#5:COMM. SIGNAL #6:VCC(DC5V) #7~#11:COMM. SIGNAL #12:GND
⑰ **CN201-EEPROM** #1:GND #2:NOT USED #3:VCC(DC5V) #4~#7:EEPROM SIGNAL	⑱ **CN31-HUMAN_SENSOR** #1~#2: COM1 SIGNAL #3: DC12V #4: GND #5~#6: COM2 SIGNAL	⑲ **CN103-DRAIN** #1: DRAIN SIGNAL #2: GND	

5-1-8 Wall-Mounted type (Neo Forte)

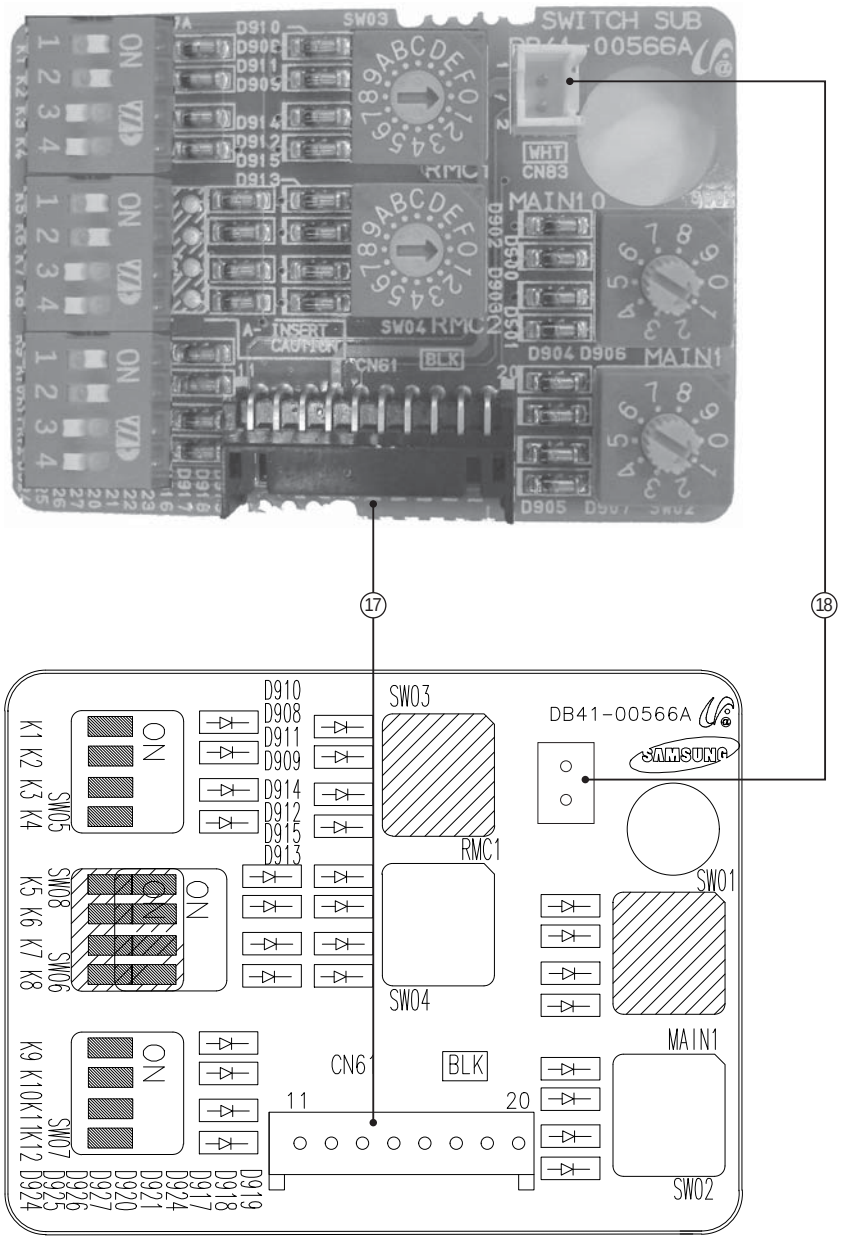
■ MAIN



① **CN701-SSR MOTOR** #1: 12V #2: MOTOR SSR OUT	② **CN101-AC INPUT** #1: L #2: N	③ **CN702-HALL IC** 입력 #1: VCC #2: GND #3: Hall Sensor 값 입력	④ **CN805-SPI** #1~2 : GND #3:SPI 제어
⑤ **CN803-** 상하 블레이드 #1: VCC #2~5: 블레이드 제어	⑥ **CN402-**온도 센서 #1 : EVA IN TEMP #2,4,6: GND #3 : EVA OUT TEMP #5 : DISCHARGE TEMP	⑦ **CN804-** 전동변 #1~4: 전동변 제어 #5,6: 12V	⑧ **CN401-ROOM** 온도센서 #1: 온도 입력 #2: GND
⑨ **CN140 - FUSE Check** #1:FUSE CHECK #2:GND	⑩ **CN313-2** 선통신	⑪ **CN301-MICOM DOWNLOAD**	⑫ **CN501-DISPLAY** #1:12V #2~7:LED 제어 #8: 리모컨 신호 출력 #9: AUTO SW #10: REMOCON INT #11:GND #12:VCC

Wall-Mounted type (Neo Forte)(cont.)

■ SUB SWITCH

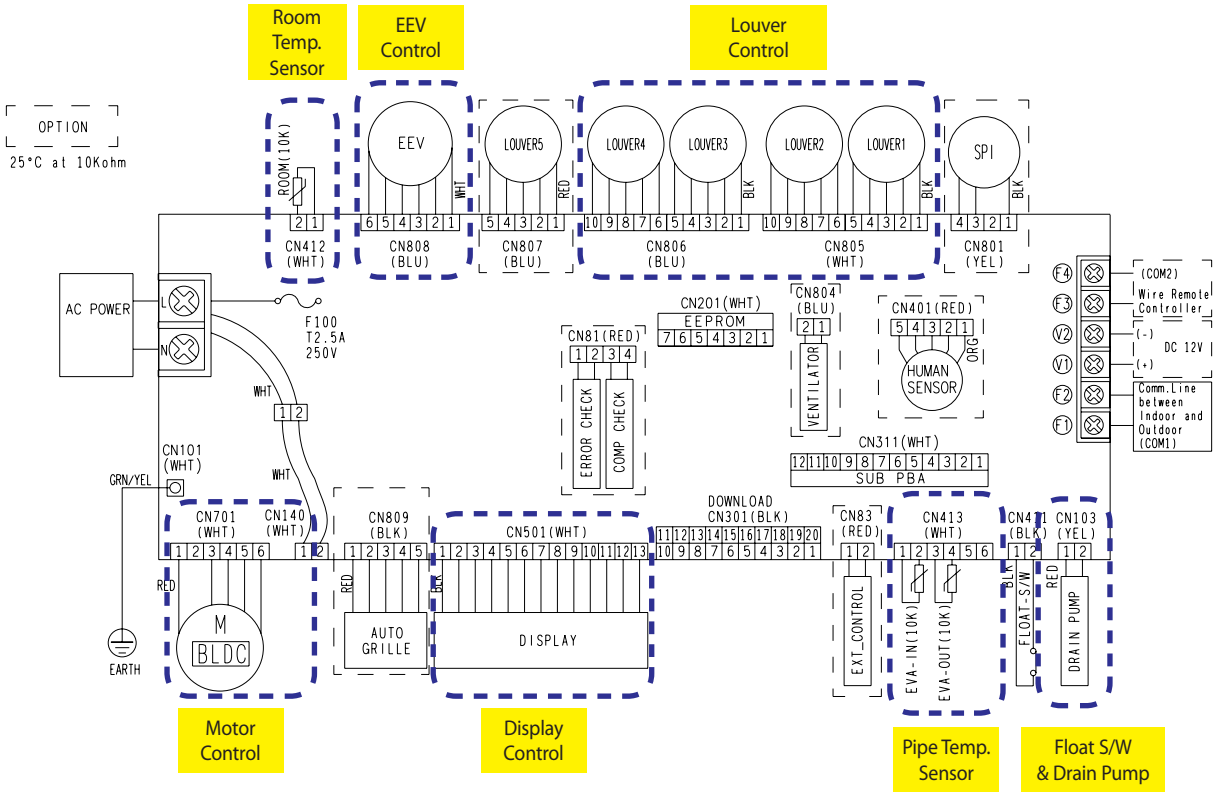


No.	CN #	COLOR	FUNCTION
⑰	CN61	Black	Main-Sub PCB Connecor
⑱	CN83	White	External Contact Control

6. Wiring Diagram

6-1 Indoor

6-1-1 Global 4way(Global Mini-4way) cassteet type



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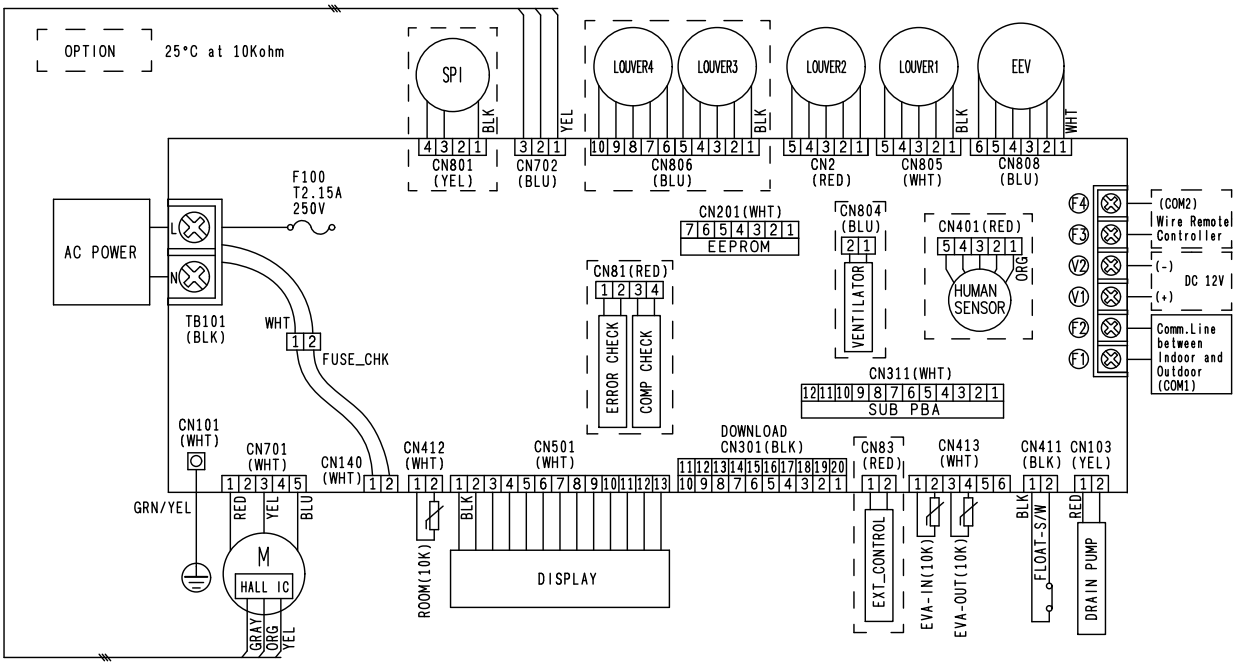
6-1-2 Slim 1way cassette type



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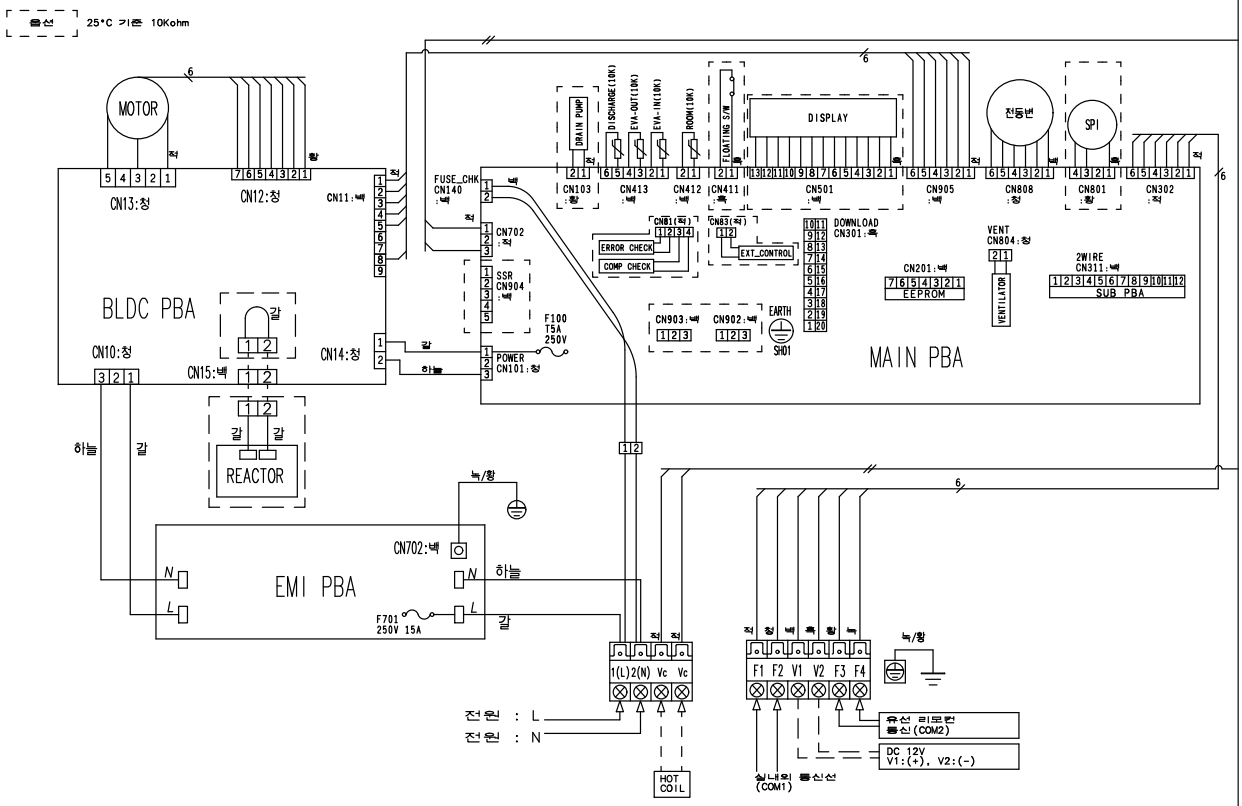
6-1-3 BIG Duct



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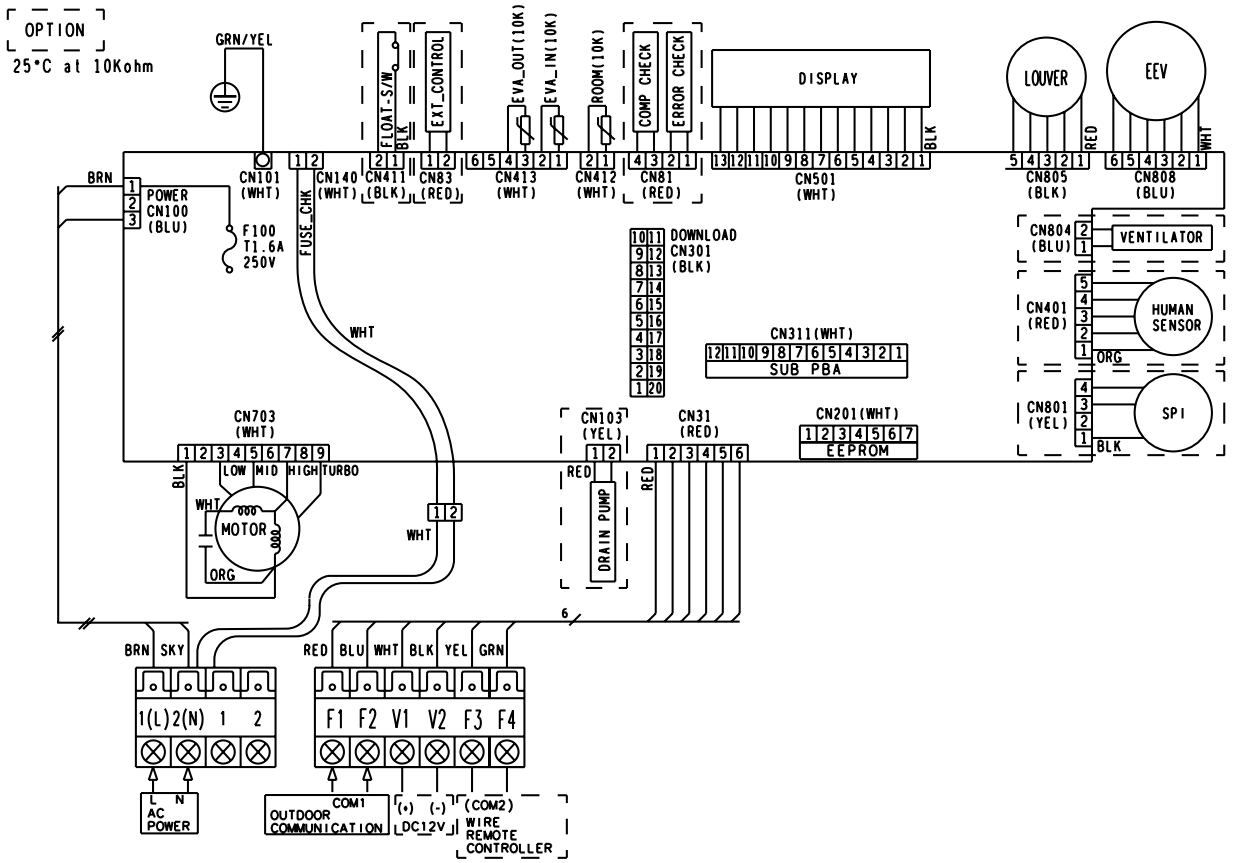
6-1-4 Ceiling



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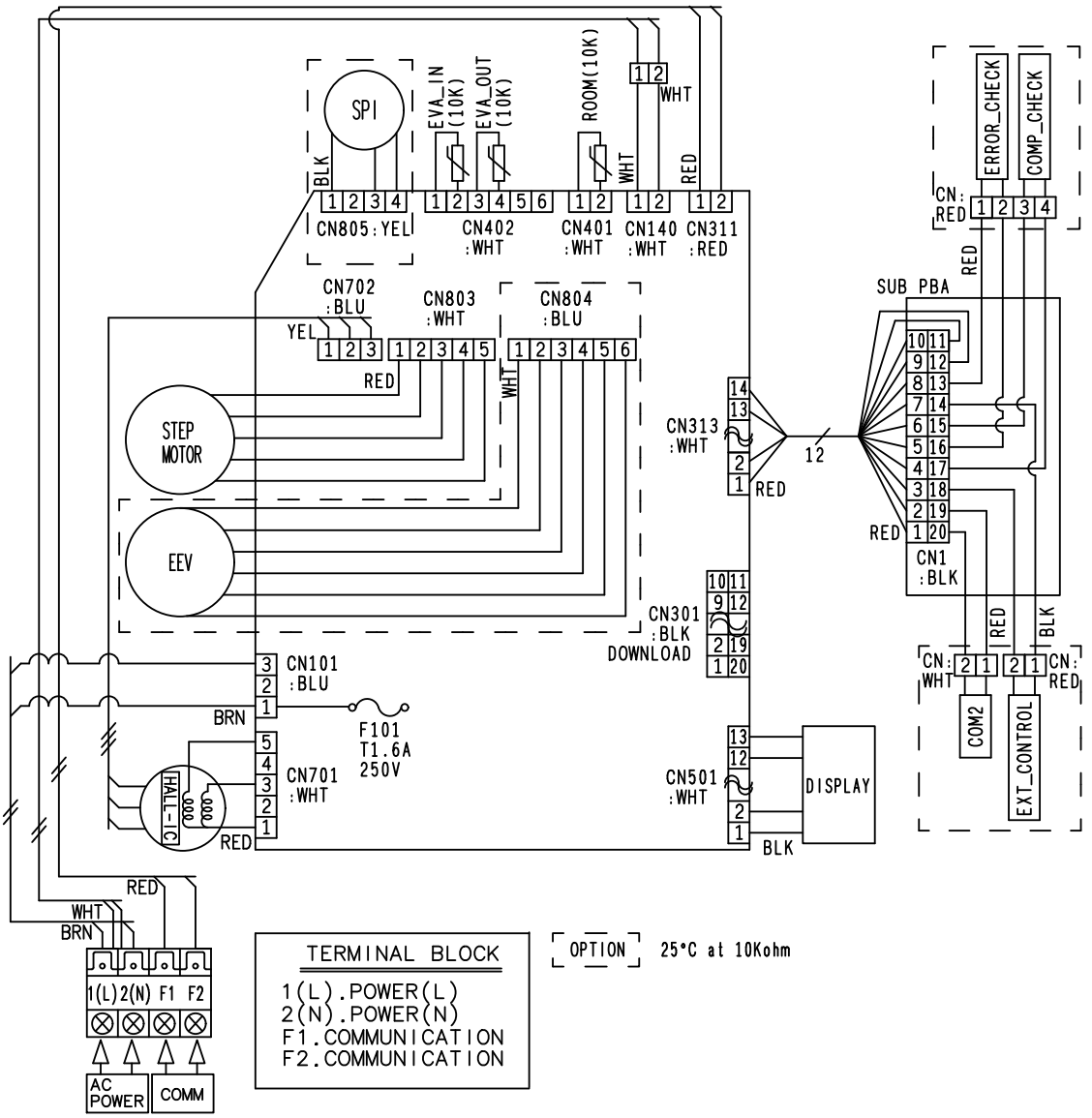
6-1-5 RAC(Neo Forte)



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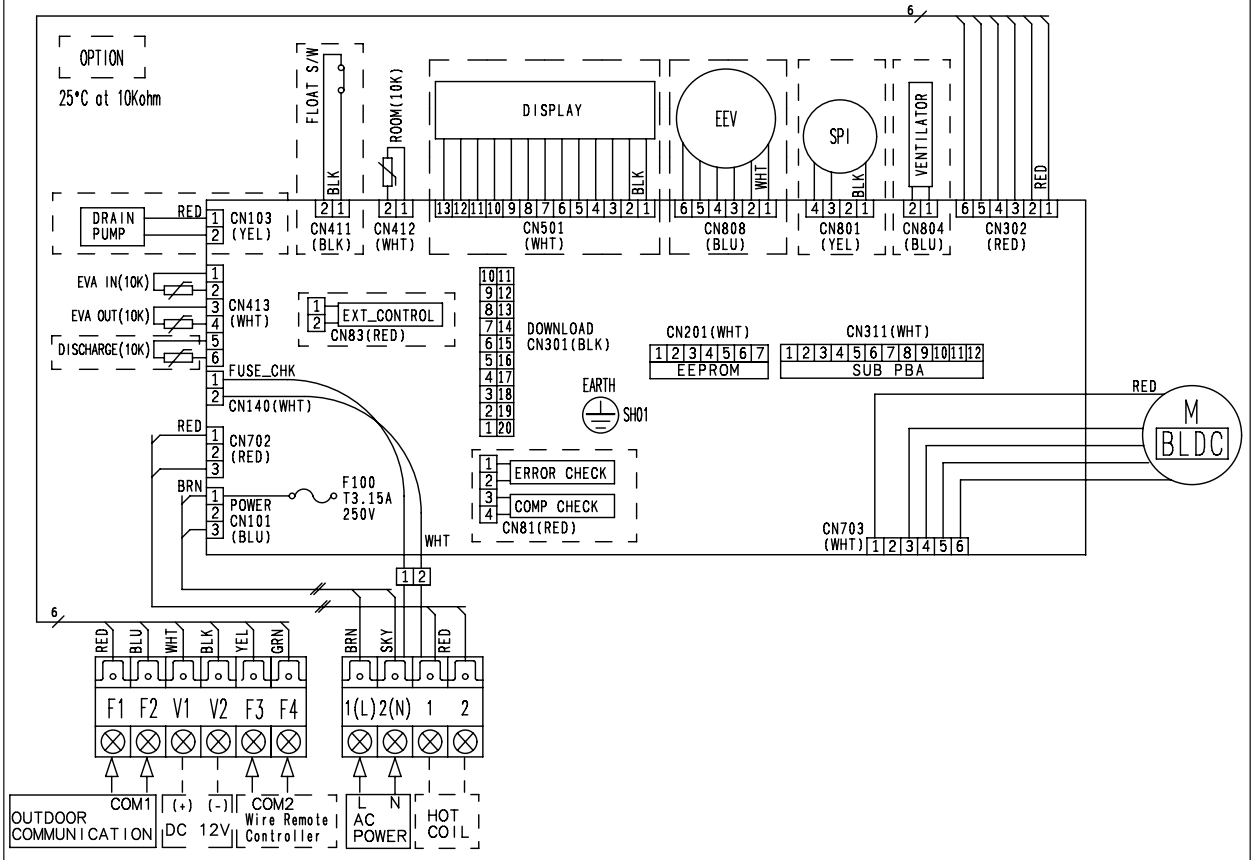
6-1-6 DUCT type (Slim III)



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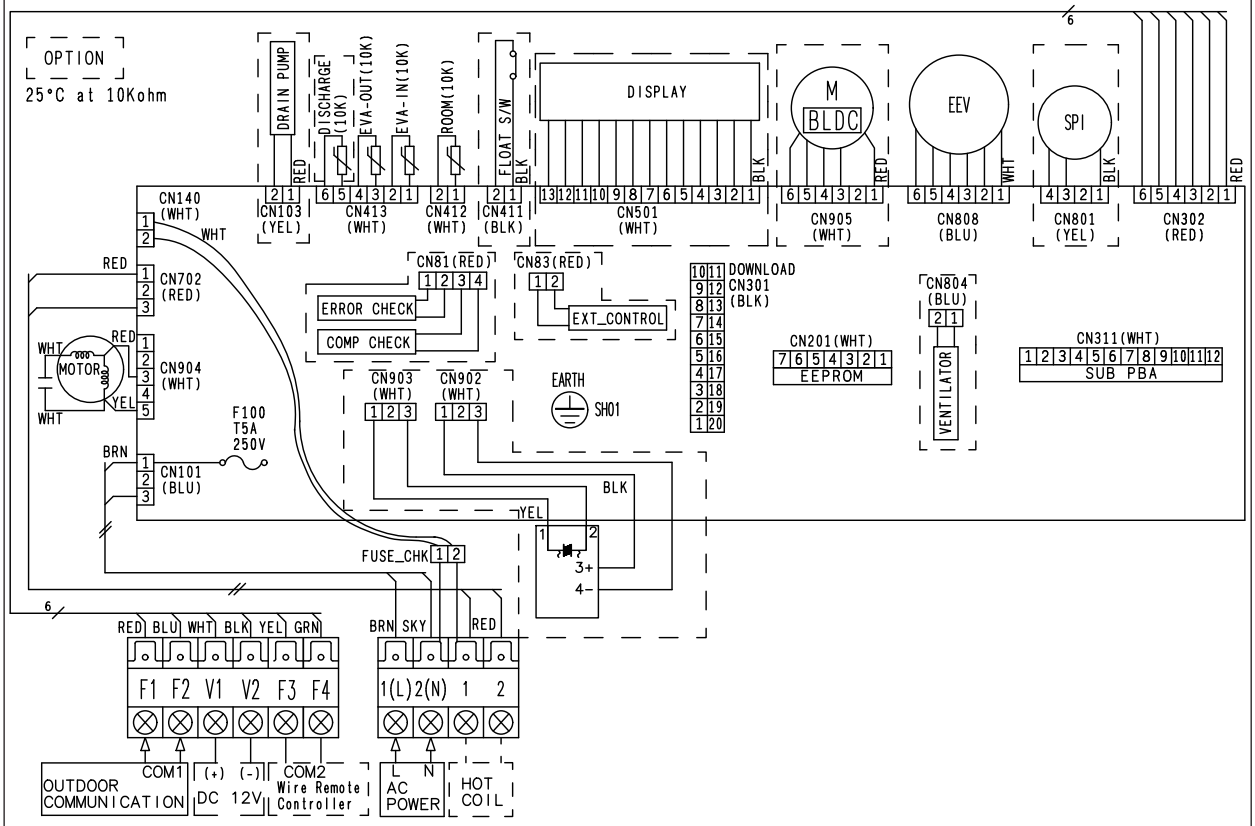
6-1-7 DUCT type (Slim I, II, MSP)



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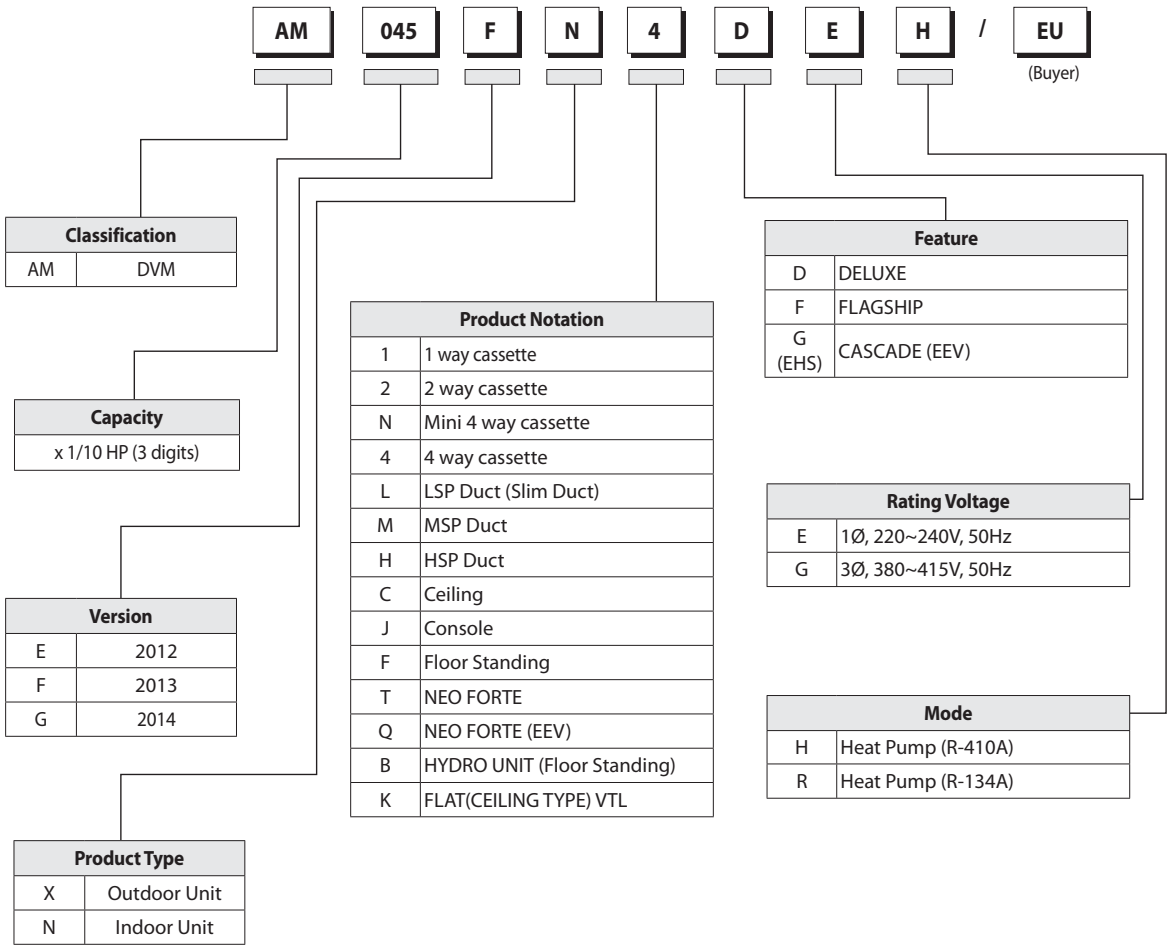
7. Reference Sheet

7-1 Index for Model Name

7-1-1 Indoor Unit

Model Code



Classification	
AM	DVM

Capacity
x 1/10 HP (3 digits)

Version	
E	2012
F	2013
G	2014

Product Type	
X	Outdoor Unit
N	Indoor Unit

Product Notation	
1	1 way cassette
2	2 way cassette
N	Mini 4 way cassette
4	4 way cassette
L	LSP Duct (Slim Duct)
M	MSP Duct
H	HSP Duct
C	Ceiling
J	Console
F	Floor Standing
T	NEO FORTE
Q	NEO FORTE (EEV)
B	HYDRO UNIT (Floor Standing)
K	FLAT(CEILING TYPE) VTL

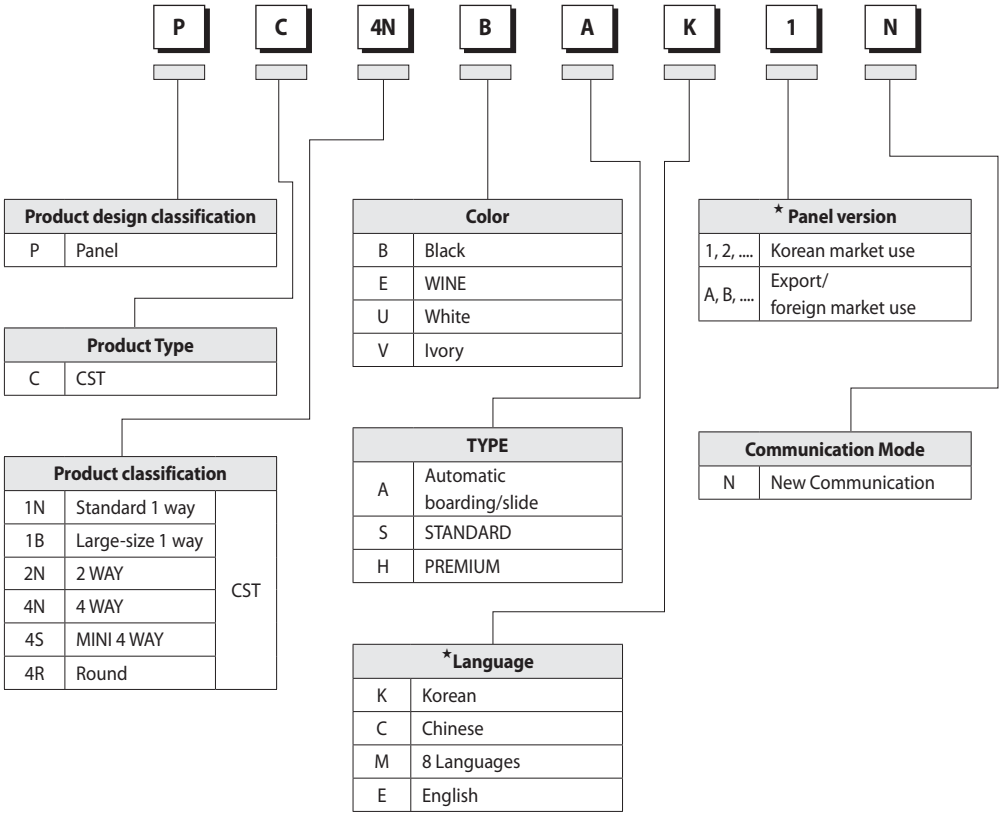
Feature	
D	DELUXE
F	FLAGSHIP
G (EHS)	CASCADE (EEV)

Rating Voltage	
E	1Ø, 220~240V, 50Hz
G	3Ø, 380~415V, 50Hz

Mode	
H	Heat Pump (R-410A)
R	Heat Pump (R-134A)

7-1-2 Panel

Model Code



Product design classification	
P	Panel

Product Type	
C	CST

Product classification		
1N	Standard 1 way	CST
1B	Large-size 1 way	
2N	2 WAY	
4N	4 WAY	
4S	MINI 4 WAY	
4R	Round	

Color	
B	Black
E	WINE
U	White
V	Ivory

TYPE	
A	Automatic boarding/slide
S	STANDARD
H	PREMIUM

★Language	
K	Korean
C	Chinese
M	8 Languages
E	English

★ Only display the Global 4 way with Korean/ English K separator.

	Pattern	Waffle	Stripe
Global 4 Way Panel	Korean market use	1	5
	Export/ foreign market use	A	E

★ Panel version	
1, 2, ...	Korean market use
A, B, ...	Export/ foreign market use

Communication Mode	
N	New Communication

※ Model name for the column/bundle packaging is "~S".

7-2 Pump-down Method

7-2-1 Precautions for Pump-down

1. If the pressure is kept low for a long time to completely replenish the refrigerant of the pipe during the pump-down, then the compressor may be damaged. Therefore, close the valve immediately if the pressure goes below 2kg/cm².g.

2. If the length of the pipe is too long or the outside temperature is too high, then it may not be able to pump down all of the refrigerant. In this case, use an empty refrigerant container which can be used for recharge to place some of the system refrigerant inside the container. The pump down can be easily carried out if only the remaining refrigerant is pumped down.

CAUTION

● Please use a rechargeable container for exclusive use when putting the refrigerant in the container.
Accidents such as explosions can happen and result in damage if normal refrigerant containers are used after illegal modification.

7-2-2 For Single Installation of Outdoor Unit (Only One Outdoor Unit Installed)

1. Close the liquid pipe SVC valve.

2. Press the K2 Button on the PCB of the main outdoor unit. ("K7" mark displayed on the outdoor unit PCB LED.)

3. Observe for low pressure by using the K4 button's view mode once the compressor starts operating.
(If the first number of the LED is "4," then the following three digits represent the low pressure, expressed up to the first decimal point.)
Example: 41 22 → 4 means the value of the low pressure, and 122 means that the low pressure is 12.2kg/cm²,g.

4. If the low pressure goes below around 2kg/cm²,g, then immediately close the SVC valve for the gas and finish the pump-down operation.
(Finish the pump-down operation, press K2 button two more times, or reset the operation by pressing the K3 button once more.)

7-2-3 When Two or More Outdoor Units are Installed

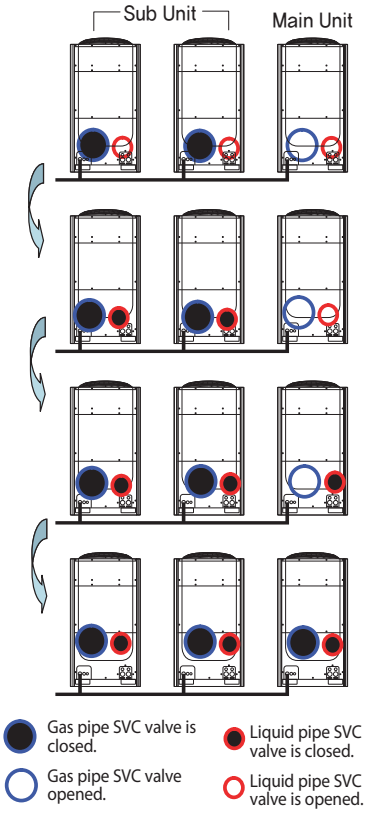
1. Close the gas valves of each sub unit.

2. Press the K2 button of the outdoor unit PCB three times. At this time, K7 will be displayed on the PCB LED. After pressing the button, wait for about 20~30 minutes once the main unit compressor starts operating.

3. Close the liquid pipe valves of each sub unit.

4. Close the liquid pipe valves of the main unit, and observe for low pressure as in the case of a single outdoor unit.

5. Close the gas valve of the main unit if the pressure drops down, and then finish the pump-down operation mode.


Sub Unit
Main Unit
Gas pipe SVC valve is closed.
Gas pipe SVC valve opened.
Liquid pipe SVC valve is closed.
Liquid pipe SVC valve is opened.

7-3 How to Put Refrigerant in Refrigerant Container

7-3-1 How to put refrigerant in container before pump-down

1. Prepare a rechargeable exclusive refrigerant container, a scale, and a Manifold gauge.

2. Check the amount of refrigerant remaining in the overall system at the time.

3. Connect the refrigerant container to the outdoor unit as shown in the following figure, and operate only about 50% of the total indoor units in air conditioning mode.

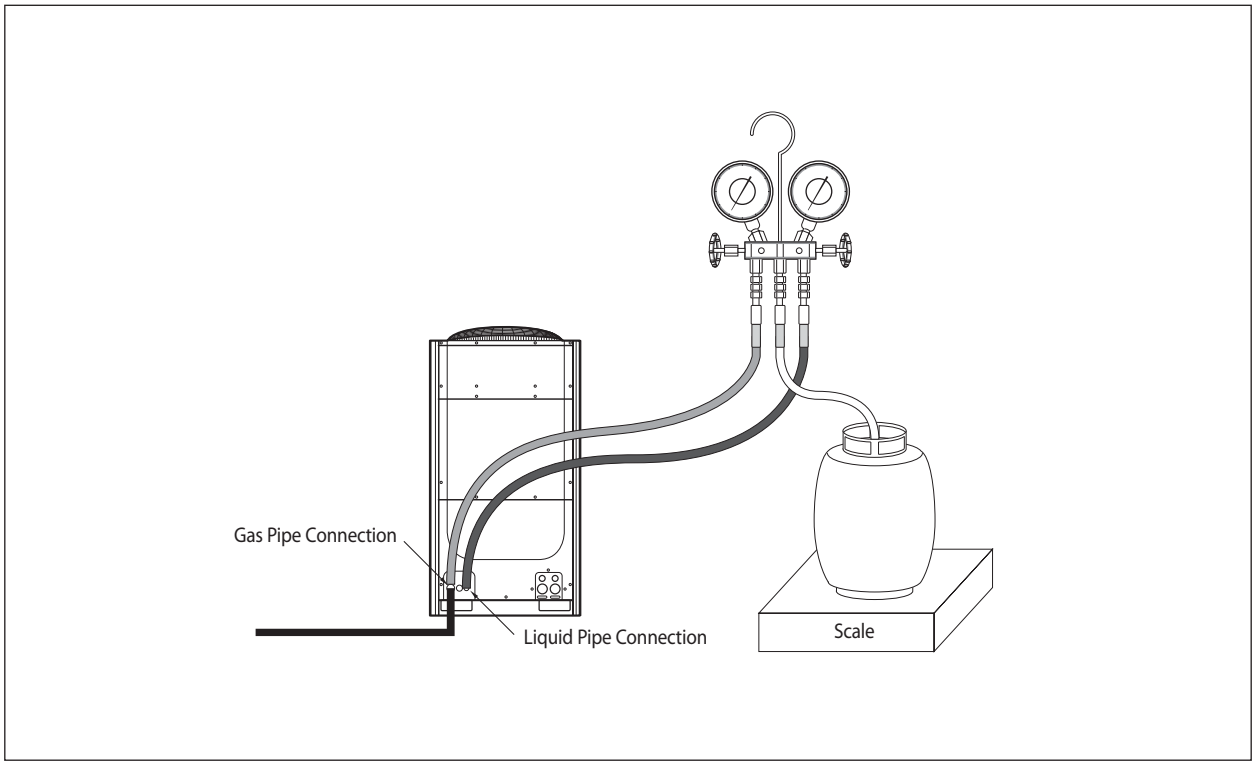
4. Check the high pressure from the Manifold gauge 10 minutes after the air conditioning begins operation.
   Reduce the number of indoor units in operation if the high pressure goes above 30kg/cm2,g. to lower the high pressure below 30kg/cm²,g.

5. Check that the high pressure goes below 30kg/cm²,g, and open the Manifold gauge connected to the liquid pipe, as well as the refrigerant container valve, so that the refrigerant flows from the liquid pipe to the refrigerant container.

6. Check the changes in the weight of the container using the scale. Once the desired amount of refrigerant is filled up inside the container, close the valves, and then remove the Manifold gauge.

7. The amount of refrigerant that can be contained inside the container is about 50% of the amount of refrigerant inside the over all system.

8. Please take extra caution by precisely determining the amount of the refrigerant that can be put in each container so that too much refrigerant is not contained in the container.
   The weight must be measured by using a scale to avoid putting more refrigerant than the amount originally contained in the container.



SAMSUNG ELECTRONICS

GSPN (GLOBAL SERVICE PARTNER NETWORK)

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